The Veterinary Record

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S., 1888.

No. 18. MAY 6, 1933. VOL. XIII.

THE CONTROL OF RED-WORMS IN HORSES*

E. LEONARD TAYLOR, B.V.SC. (LIV.), M.R.C.V.S., D.V.H.

VETERINARY LABORATORY, MINISTRY OF AGRICULTURE AND FISHERIES

Of the numerous species of parasitic worms which infest our domestic stock in this country, all may be considered to do harm, and on investigating the matter we sometimes find that they are causing more harm than was suspected, but there are a few species and groups of species which have caused such extensive and obvious trouble as to have earned special notice in the form of a common name for the diseases which they cause, such as liver rot, scours in lambs, husk in calves, gapes in chickens and red-worms in horses.

Strongylidosis is one of the most economically important of all the equine diseases, and is regarded by many as the most important. As in several other diseases caused by worms which do not require the intervention of an intermediate host, these parasites are rarely absent even from healthy horses, and the disease is liable to make its appearance in animals of a susceptible age whenever the circumstances arise which lead to the development of large numbers of the parasites.

Altogether about 50 different species of strongyloid worms are concerned in this disease and it is usual for more than one species, in fact for several species, to be present at one time. For the purpose of this discussion it will, however, only be necessary to divide them into two groups: one group of three species, the strongylus worms, and the rest, which may be conveniently referred to as the cyclicostomes.

Life History

Although the first part of the life history has only been worked out for one or two species, it is very probable that they all conform more or less closely to the one type, which is as follows:—

The female worms in the large bowel lay eggs, and these reach the ground with the fæces, the embryo being in a very early stage of development. In contact with the oxygen of the air, and providing the temperature is not too low, the embryo develops to maturity in the course of a few hours, and the first-stage larva hatches out and begins to feed. Various kinds of bacteria probably serve as food, it having recently been shown that the larvæ of a related worm, the hookworm, develop normally in pure cultures of bacteria.[1] After a day or two it moults its skin, and casts it off, then continues to feed, and after a few more days moults again; this time, however, it does not cast its old skin, but retains it as a loose protecting sheath. The larva then makes its way on to the grass and waits to be taken up by a grazing horse; whereas in all the stages previous to this one (the egg, the first-stage larva, and the second-stage larva) it was incapable of infecting an animal, it is now ready to do so.

THE INFECTIVE LARVA.

As it is in this form that infection lies on the ground or is transferred from one animal to another, it is obvious that the study of the bionomics of the third-stage or infective larva is very important from a control point of view. The literature contains several reports of observations on the infective larvæ of strongylus worms, and reports of observations on the reaction of hookworm larvæ, in particular, are very numerous indeed (these worms are sufficiently closely related to the strongylus worms for the observations to apply in some measure.)

The infective larvæ of some strongyloid worms have been observed to ascend the blades of grass in the dew or rain on their surface during the night, or in very dull weather, and to descend again to the earth when the sun rises or the light becomes strong; but that this ascending and descending activity only continues for some three weeks, at the end of which time the larvæ remain at the base of the grasses, close to the soil. The double skin which these larvæ carry protects them very successfully from the effects of drought and day-to-day changes of moisture and temperature, and although those in the more exposed positions may only survive for a few weeks or months, the most favourably disposed larvæ can remain alive in the pasture and retain their infectivity for 12 months, or even longer than that. It was recently observed by Raffensperger[2] in America that some of these larvæ in a heap of manure protected from flies but otherwise exposed, resisted a summer heat of 106° F., and lived through two winters, the temperature sometimes falling as low as minus 38° F. This is an isolated observation, and it is probably very unusual for them to survive so long.

It is the opinion of American workers on hook-

* Presented to the Midland Counties Division, N.V.M.A., on the occasion of the Annual Meeting, held at Birmingham, March 10th, 1933.

DEPT. OF VET. MEDICINE

worm disease that the larvæ frequently lose their protective sheaths in the soil and do not survive nearly so long as laboratory observations had led us to suppose.

The double skin also renders these larvæ very resistant to lime, copper sulphate, salt or kainit, which might be applied to the land in an endeavour to kill them, and observations in the laboratory show their resistance to be so great that the prospect of finding any substance which would kill the larvæ without requiring at the same time to be so strong as to kill all the herbage when applied to the pastures appears to be rather hopeless.

Dryness is without doubt the most lethal natural factor. Nöller and Schmidt[3] have observed that in a ball of fæces, as dropped on the ground, the infective larvæ appear in ten days, but if the fæces are loose and become dry within 40 hours the larvæ do not develop. Nöller and Korkhaus[4] have shown that the development of the larvæ is in no way hindered by the addition of peat or sawdust to the fæces. Wetzel[5] concluded from a study of the temperature required for larval development and the maximum and minimum temperatures registered at Hannover, that the development of infective larvæ is only likely to take place to any great extent in that district from March to November.

Although the infective larvæ can withstand such comparative dryness as that to which the soil and herbage in our fields is occasionally subjected, they cannot withstand absolute dryness, and a few hours' dryness on a glass slide in a warm dry laboratory is usually enough to kill them. It might be gathered from the numerous observations of red-worm infection in town horses which have not been out to grass for years, that infection is carried in the hay, but I think this must be regarded with some suspicion. Observations at Weybridge on hay made from pasture very heavily infected with the larvæ of *Ostertagia circumcincta* suggest that those larvæ at least are unable to survive the hay-making and storing process. The infection which does take place in town stables probably results from eating soiled litter or from licking damp stable walls, up which the larvæ ascend (all these larvæ have a tendency to climb upwards on any damp surface) and, furthermore, in looking for an explanation for the infestation of these horses we must not overlook the possibility of the worms already present being able to survive for some years. The longevity of some parasitic worms is very surprising; there are records of hookworms living in man from seven to 15 years, and of observations in which individual hosts showed no diminution of infection after four years away from all possibility of reinfection; while records of the longevity of trematodes are even more extraordinary—clonorchis has been observed to live for 25 years, and bilharzia for 30 years.

MIGRATION IN THE HORSE.

Our knowledge of the next stages of the life history of these parasites is much less complete and although the parasitic development of the cyclicostomes appears to be fairly simple, the larvæ entering the mucosa and re-entering the bowel when almost mature, the strongyles apparently require to wander into more remote parts of the body and to spend their early stages away from the intestine. The young larvæ of these worms cause a violent reaction in the tissues of the intestinal wall which often leads to the encapsulation and death of the worm, and possibly it is to escape this that they wander elsewhere. Nematodes pass through four moults, two in the free-living stages and two in the parasitic stages, dividing the first, second, third and fourth stage larvæ and the adult. The infective larva, the one which has been mentioned as enclosed in two skins, is at the beginning of the third stage, but the parasitic third stage larva has not yet been found in the horse. In work begun in Washington and completed at Weybridge[6] it was, however, found possible to recover this stage by feeding the infective larvæ to guinea-pigs, the young third-stage larva being found in the wall of the intestine and the mature third-stage larva in the mesenteric lymphatic glands. It has since been shown that the larvæ of the lungworm of pigs, cattle and sheep pass through the mesenteric lymphatic glands on their way to the blood stream, and although what takes place in an unnatural host like the guinea-pig may not hold for the horse, it is probable that many of the strongylus larvæ do pass through the lymphatic glands in their natural host, though some also enter the portal circulation. What next takes place is largely a matter of conjecture, but we may suppose that they pass by the main lymphatic duct into the blood stream and are then carried to the various places in which the fourth-stage larvæ and immature adults are found.

These two stages of *S. equinus* are frequently observed in the liver and pancreas and have also been seen in the lungs; those of *S. edentatus* are found under the parietal peritoneum, in the parenchyma of the liver, in the connective tissue of the ventral colic vessels, and in the peri-renal fat, particularly that of the right kidney, and those of *S. vulgaris* are found in various arteries but principally in the mesenterics and their branches.

Tracing the development still further, the adults of these three species are then found in the cæcum and colon; *S. equinus* in the right ventral colon, usually in small numbers; *S. edentatus* also in the right ventral colon, but frequently in large numbers, and *S. vulgaris* in the cæcum, this species probably being the most plentiful of the three.

The greatest mystery in the life history is the passage of the worms from the diverse situations in which the fourth-stage larvæ and the immature adults are found in the lumen of the intestine. Some of the most competent observers are of the opinion that the immature worms which are found in blood vessels, in the liver, pancreas, under the parietal peritoneum, or free in the abdominal cavity have reached those sites by accident and are side-tracked and unable to proceed to the completion of their development in the intestine. It appears to me to be a more rational view to suppose that the larvæ pass through at least some of these situations in their normal migration back to the intestine. Situations such as the eye, the testicle, the coronary band, and the lungs are unusual, and it is probable that larvæ in such places will never regain the intestine, but in two of my experimental horses I have found large numbers of fourth-stage larvæ and immature adults of *S. edentatus* and several *S. equinus* in pancreas, liver, mesentery and free in the abdominal cavity and none on their way to the intestine by any other route, and I consider it most probable that in the course of the normal migration they pass through one or other of these situations, and that they may reach the intestine *via* the pancreatic duct or perhaps by directly penetrating the intestinal wall.

Schwartz and Price,[7] in recent work on the life history of the kidney-worm of pigs, have shown that although many of these worms become side-tracked in various tissues and organs, the development of the worm can only be completed after it has bored its way from the liver into the peritoneal cavity and thence through the perirenal fat into the ureters, and it is not improbable that the strongylus worms have some similar direct way of regaining the lumen of the intestine.

One interesting point which came out of the observation on the two experimental horses which have just been mentioned, is that the period required for the development of the mature *S. edentatus* and *S. equinus* is not less than twelve weeks. At the autopsy, carried out twelve weeks after the first administration of larvæ, no mature worms were found in the large intestine, although many immature stages were found in other parts of the body. (Unless actually in the lumen of the intestine, these worms are inaccessible to anthelmintics.)

The cyclicostomes probably complete their development much more quickly; they are not found in places other than the mucosa and lumen of the bowel and it is thought that the young larvæ enter the mucous membrane and pass the third and fourth stages there, returning to the lumen as the immature adults.

Pathogenicity

There is little definite information on the pathogenicity of the many species concerned in the production of red-worm disease. Some of them suck blood from the walls of the intestine, and in the young stages many of them cause such irritation of the mucous membrane and to the deeper parts of the intestinal wall that it becomes greatly thickened and unable to function properly. The cyclicostomes are perhaps the greatest culprits in this particular, and in parts of France these worms are considered to be far more harmful than are the strongylus worms. A great thickening of the intestinal wall not infrequently occurs, however, in young horses heavily infested with strongylus worms. In these cases many calcified and dead larvæ may be found encysted in the muscular and mucous coats and the thickening appears to have been caused by the young larvæ soon after infection has taken place, and in the early stages of their migrations.

We know something of the lesions which the strongyle worms cause in blood vessels, and of the small abscesses in which they are occasionally found in the intestinal mucosa, but apart from the gross pathological changes which may be seen in heavy infections, we know very little of their association with disease, of what the significance of the smaller verminous aneurysms might be, and of how many worms a horse may carry in the intestine before its health is impaired. There are many who consider that the aneurysms are a frequent cause of colic, and no doubt there is something in the idea, but its importance has at times been greatly over-estimated. It was shown by Cobbold[8] as long ago as 1879 that between 90 and 95 per cent. of horses over six years old have these aneurysms, and other observers have since pointed out the great frequency of their occurrence; although verminous aneurysms caused by *S. vulgaris* are very common in South Africa, colic is rare, and Haltenhoff[9] in a recent statistical study of the cause of colic in Germany, came to the conclusion that only 2·88 per cent. could be ascribed to worms.

Some interesting but laborious work has recently been carried out in Russia by Bederke,[10] who made an examination of the total helminthic contents of the intestines of horses. In one horse 52,000 worms were counted and differentiated into species and sex; another horse was found to contain 200,000 worms and a third 32,900 worms, these last belonging to five genera and 27 species. He notes that this last horse had not shown any pronounced symptoms of intestinal catarrh.

Apparently we must be satisfied at the present time with the knowledge that the presence of a few worms causes no appreciable harm, but a heavy infestation causes disease, and may lead to death. And this brings us to the difficult matter of diagnosis.

Diagnosis

Where two or more young horses are found to

be in poor condition, in spite of a plentiful supply of good food, and there is a history of grazing together on pasture which has been much used by horses, one may feel safe in diagnosing strongylidosis. Where only one animal is concerned, the diagnosis is less certain, and if that one is an aged horse, is to be regarded as doubtful. The finding of numerous eggs in the fæces is of great assistance, but too much importance should not be placed upon this laboratory aid to diagnosis, this being of *comparatively* little value apart from the symptoms and history.

Egg counting methods are in favour at the present time for the diagnosis of helminthic disease, largely as a result of the American work on the control of hookworm in man. Providing standard conditions obtain, in human hookworm disease the egg count is a very reliable guide to the worm infestation, and it is possible from the number of eggs per gram of fæces to calculate the number of worms very closely. In many of the helminthic diseases of animals the conditions are, however, more complicated, and in strongylidosis of the horse they are particularly so. The many different species of worm concerned are of varying pathological importance, and produce eggs at different rates, these eggs being indistinguishable in size and shape from one another. This factor in itself would be enough to detract very considerably from the value of the egg count for diagnostic purposes, but there are other important drawbacks. Where a young animal has been subjected to a heavy infection, symptoms may appear before the worms mature, and I have myself seen a heavy natural infection where there were numerous immature stages in the abdominal viscera, but very few mature worms in the lumen of the intestine. Examination of the fæces would give no evidence of the serious nature of this worm infestation.

The ordinary count of eggs per gram is also liable to a very considerable variation, dependent upon the amount and nature of the food of the horse and the consistency of the fæces, a bulky feed of hay leading to a reduced egg count, and concentrated feeds to an increase, while a complete fast would cause the egg count to rise very high.

The egg count is thus seen to be liable to many errors, and should be regarded only as a confirmatory test, and a valuable aid to diagnosis.

I would like to suggest here that from the research point of view it might be a great help if those who are interested in this aid to diagnosis and the correlation of egg count with disease, would use some method giving an estimate of the number of eggs per gram of fæces, and not be satisfied with some arbitrary method which may be useful in making their own comparisons but cannot be understood by others.

Treatment

Treatment for this disease in the horse is of two kinds: the one safe, convenient and calculated to please the owner, but valueless for the removal of the parasitic worms; and the other inconvenient, bothersome to the owner, at times attended with some danger, but quite effective for the removal of the worms.

The first-mentioned kind of treatment usually takes the form of some powder, to be given each day for seven or ten days, ferrous sulphate and gentian, for an unknown reason, being in favour for this purpose. Worm powders, however, clearly call for no serious consideration here, and so we will pass on to the real anthelmintics. These are poisonous drugs, and there are three which have been shown to have a particular value for the removal of red worms—oil of chenopodium, carbon tetrachloride, and turpentine. The critical tests carried out by Hall must, by this time, be quite familiar, and I will only remind you of the principal points in his findings. Hall[11] was the first investigator really to put these drugs to the test in the horse, and he found that, contrary to what had been supposed, the removal of strongyles from the large intestine is not particularly difficult. Oil of chenopodium in the dose of four to six drams was found to be the most effective drug, removing between 95 and 100 per cent. of the worms; carbon tetrachloride proved to be as effective as oil of chenopodium for strongyles, but less so for cyclicostomes, the dose being 25 to 50 c.c., and turpentine in the moderate dose of two ounces in a quart of linseed oil proved to be quite useful, removing all of the cyclicostomes and 48 per cent. of the strongyles. Trials with sulphate of iron, two drams in a mash daily for seven days, showed it to be less than 1 per cent. effective; tartar emetic, two drams daily for five days, and carbon bisulphide were also tried but found to be very inefficient.

Parasitic worms in the large intestine are usually thought to be rather inaccessible, and Hall suggested that the unexpected efficiency of these drugs might be dependent upon the anatomy of the alimentary tract of the horse, the drugs passing quickly through the small stomach and narrow small intestine to reach the large intestine, where they remain for a comparatively long period.

In each instance a most important part of the treatment is the preparation of the horse, a complete fast of 24, or preferably of 36 hours being essential for success, and it is necessary to clear the stomach and small intestine of food and to allow the drug to pass quickly and as undiluted as possible to the large bowel. The accompanying purgative dose is also important, not so much to expel the worms as to expel the poisonous anthelmintic before it can injure the horse. A quart of linseed oil is recommended to go with

oil of chenopodium or turpentine, and magnesium sulphate with carbon tetrachloride; this drug may at times, however, be safe without a purgative dose.

With regard to treatment, we are, therefore, in a better position with these worms than with many others—we can at least remove them by drugs, and in many instances these drugs are remarkably safe. I understand from Major Pryer that some 2,000 doses of six drams of oil of chenopodium have been given to horses at the Army Veterinary School at Aldershot, with only one casualty, and that one could not definitely be ascribed to the drug.

Colonel Wood[12] has recently reported the result of trials of oil of chenopodium carried out with the aid of several veterinary practitioners in 135 thoroughbreds and hunters of various ages. He mentions one fatality in a three-year-old thoroughbred following a dose of four drams, but apart from that, had no accidents. He found a dose of four to six drams to be very effective for the removal of the worms, but that a dose of less than four drams was very unreliable. Reasonably good results were also obtained in foals with a dose of not less than one dram. These results are very useful, as we particularly want to know something of the application of this treatment to young animals.

A Russian investigator[13] has recently reported on the successful use of carbon tetrachloride in doses of 150-200 c.c., and found that mature horses will stand a dose of 400 c.c. Although at some times and in some districts it may be perfectly safe, this drug must be handled with care. Marked intoxication is sometimes produced by the ordinary anthelmintic dose, there being some apparent connection with calcium deficiency, and since there are other drugs as good or better, it is well to avoid carbon tetrachloride in the treatment of strongylidosis. The use of oil of chenopodium also has its dangers; it is distinctly contra-indicated in inflammatory conditions of the alimentary tract, in debility—not excluding the debility caused by a heavy infestation with the worms—in pregnancy, and it cannot be regarded as safe for young animals, where fatalities occasionally result from moderate doses, or where the dose needs to be so far reduced as to detract from its efficiency; this is particularly unfortunate, as the disease concerns young animals and to reduce the dose below two to three drams often renders the treatment useless.

It is obvious, therefore, that although treatment for strongylosis is almost the last word in anthelmintic efficiency, it is not the last word in the control of strongylidosis; and we must look to prevention.

Prevention: the Principles on which to Work

Let us further consider the development of the disease, and how it may be hindered. We have seen that the number of worms is all important; a few are to be found where ever horses are kept, but disease does not result unless they increase to very large numbers, and the external factors which lead to increase of the number of worms are those with which we are concerned in disease prevention.

Crowded conditions favour the spread of all kinds of infectious diseases, but none so definitely, and none so progressively, as the disease caused by parasitic worms. If two animals of a standard infection are placed where one was previously kept, the ground will become twice as heavily infected, and each animal will pick up twice as many eggs or larvæ, thus leading to four times as many eggs or larvæ reaching the ground as did so in the first instance. Place three animals where there was one, and soon there will be nine times the amount of infective material reaching the ground. Place ten, or one hundred, where there was one, and the increase will be one hundred, and ten thousand respectively, giving some idea of the true comparison between conditions in the wild state and conditions under domestication.

The length of the grass on the pasture may also be important; horses always bite close to the ground, but probably less close when there is ample pasture; and when the pasture is very short they not only take in more infective larvæ with every bite because they are biting nearer the ground where the larvæ lie, but are forced to cover more ground in order to find enough food, and this is perhaps the most potent factor concerned in close grazing.

There is no evidence to show that one type of pasture is more or less favourable to the development of the infective larvæ, or to their longevity, than another, but it may yet prove to be so. The season of the year will have some importance, although not so much in this country, with its mild winters, as in some other countries, where the cold is sufficient materially to retard the free-living development of the worms. The seasonal occurrence of the disease is dependent rather upon the length of time that the horses have been at grass and upon the amount of grass than upon the atmospheric conditions.

The other factors governing the increase of the parasitic worms concern the horses themselves, their comparative resistance or susceptibility and the interesting study of immunity.

This branch of the study of helminths is rather fashionable at the present time, but as yet, little more is known than that some hosts develop an immunity in response to certain worm infections, and that for other worms there is a very definite resistance developed as the host reaches maturity, irrespective of previous infection. The best example of the age immunity is that developed by the chicken to the gapeworm; on reaching the age of eight or nine weeks all the gapeworms

which may be present in a chicken die, and it becomes no longer possible to produce re-infection, although at any time before that period it would have been easy so to do. No other instances of age immunity are known which are quite so definite as this one, nor is the acquired immunity to helminths generally so obvious and absolute as it is to some bacterial or virus diseases, but an acquired immunity has been demonstrated in a number of instances in laboratory animals. A short time ago it was shown by an American worker[14] that lambs exposed to almost continuous reinfection with the twisted wire-worm (as would obtain for lambs at pasture in the ordinary way) carried an increasing number of worms, as shown by the egg count, which rose to a high level. The egg count then suddenly fell, the worms being expelled, and it was concluded that this was the result of an acquired immunity, although the possibility of an age immunity playing an important part was not altogether ruled out. Field experiments at Weybridge have shown even more clearly that in a great measure this relative immunity of older lambs to verminous gastritis is a result of previous infection. It was observed that lambs turned out to graze in the spring, when there is comparatively little infective material on the grass, acquire an immunity which is sufficient to protect them against very heavy doses, such as later in the year proved fatal for lambs not so protected.

The horse is an expensive experiment animal, and it will probably be a long time before we know much of the nature of its immunity to strongylidosis, and we cannot argue from what is known of the immunity responses to allied species of worms, as these host-parasite relationships do not seem to follow the systematic arrangement of the species at all closely. It is, however, most probable that to some extent at least both kinds of immunity are involved, and we can safely assume for practical purposes that for the first two or three years of its life the horse is particulary susceptible to strongylidosis; being a very suitable host at that age, a large percentage of the ingested larvæ are able to grow to maturity, and on heavily infested ground disease may speedily result. The mature animal, on the other hand, is less suitable for the development of the worms; if any of the ingested larvæ develop at all it is only a very small percentage of the total ingested, and infected ground may be safely grazed providing that the health of the animal is not allowed to suffer from some other cause and the immunity thereby to be broken down.

CONTROL.

What is the most advantageous way to use this knowledge of the life history of the worms, the use of anthelmintics, and the immunity reactions of the horse? What sound and practicable advice can be given for prevention? Young animals up to three years, or thereabouts, are the principal risk, and all efforts must be concentrated on these. On account of the ubiquity of the parasites we cannot hope to keep the horses altogether free from infection, but by constantly watching every avenue through which infection may reach them it should at least be possible to prevent the number of worms from becoming so large that disease results. Infection is stored up in the horses and on the pasture; when it increases in one it also increases in the other. How can we intercept its passage from the pasture to the horses, and from the horses to the pasture?

The following are precautions which at various times might be taken in achieving that object.

Avoid crowded conditions of horses grazing, and particularly for young horses. Where aged horses are crowded together the increases of the worms may be slow, or there may be none at all, on account of the immunity reactions of these hosts preventing the development of the larvæ which are ingested; crowded conditions of grazing with young horses, on the other hand, lead to a rapid increase of infection; a large percentage of the larvæ which are taken up develop to maturity and there is a quick and efficient turnover of worms from pasture to host and back again.

Mixed grazing is greatly to be preferred to grazing with horses alone. The beneficial effect of this, through leading to a more scattered condition of horse grazing, is obvious, but there is another, and perhaps more potent, action leading to a decrease in the number of infective larvæ already present. From what is known of the feeding of these larvæ to unsuitable hosts there can be little doubt that all those which are picked up by cattle, sheep or goats never regain the pasture alive. On account of their habit of biting close to the ground, sheep may, therefore, be very useful, and where a pasture has become heavily infected with red-worms it appears to be reasonable to recommend that it be grazed very closely with sheep, which would in this way virtually pick off the larvæ and destroy them.

To rest a pasture for a time and turn the grass into hay is another way of decreasing the amount of infective material on the ground.

Clean pasture is, of course, the ideal for young horses, and in actual practice it has been found that, where the mares are dosed with oil of chenopodium before being taken along with their foals to clean pasture, the foals remain almost entirely free from infection. Raffensperger[2] claims to have secured almost complete control by this method.

Where mixed grazing cannot be practised it might be possible to arrange for some form of rotation of grazing. The available pasture might be divided into three equal portions, A, B and C, and subdivided again, if necessary, for conveni-

ence of management. Mature horses graze two of these portions, and colts, and mares and foals graze the third. Every year the groups move round so that two years' grazing with adult horses intervenes between each year's grazing with young horses.

A periodic treatment of adult horses with oil of chenopodium would here be almost indispensable, and if one or more year's grazing with cattle or sheep could be introduced the control would be rendered more complete.

In some instances it may be very inconvenient to move the horses round in this way and in those instances the pasture may be kept comparatively free from infective material by the fæces being picked up. It has been pointed out that under usual conditions the eggs do not hatch for 24 hours and the infective larvæ do not appear for ten days; in spite of this delay it would, however, be advisable on account of the dung being strewn about by birds or washed by rain, to remove it daily, if not more frequently.

There can be little risk of infection taking place in well-appointed stables, where the dung is frequently cleared away, but where it is allowed to lie on the floor, and horses eat the bedding or lick damp walls up which the larvæ may climb, there is a certain danger. With the exception of very unusual instances, however, this source of infection could not compare with the danger of a heavily infected pasture, and we have already seen that the risk of hay being a danger is very slight.

The manure from stables is also a source of danger to the pastures. The process of fermentation which goes on in a heap of manure is, however, fatal to the larvæ and it has been shown that the admixture of lime or disinfectants with the manure actually favours their survival because it retards the normal fermentation. Workers in the American Bureau of Animal Industry[15] advocate the use of a special manure box into which all manure is placed, and left for a few days to ferment; by this means every part is subjected to fermentation and all infective material killed. It does not, however, appear to be necessary to go to such lengths as this; if the outer 12- or 18-in. of the manure on which the fermentation has not acted be removed and set at one side in order to be placed in the centre of the next heap, the fermented part may then safely be taken out on to the ground.

It is wise to avoid manure heaps in the field, but if this cannot be done, the heap should be fenced off by a fence some two or three yards from its edge, and precautions taken against rain-water carrying larvæ from the manure on to the pasture outside the fence.

Finally, there is the difficult question of when to use oil of chenopodium; and this, perhaps, depends largely upon the owner, who frequently is horrified at the idea of fasting his horses for 36 hours. Apart from that consideration, the treatment might, with advantage, be used much more frequently than at present; but I think its principal use will always be in adult horses, or in horses not younger than four or five years old, where an effective dose can be given with comparative safety. When the owner is willing and the presence of heavy worm infestation is established—as for instance on a breeding establishment, where young horses are definitely suffering from the disease—it is well worth while to treat all animals over that age. It should always be remembered that, apart from newcomers, and horses which have been isolated for a long time, this disease, will tend to affect all animals which have been exposed to infection, and we should think rather of treating whole stables of horses than of attending to individuals which happen to be in poorer condition than their fellows.

References

[1]McCoy, O. R. 1928. *J. Parasitol*, Vol. 15, 141.
[2]Raffensperger, H. B. 1931. *Vet. Alumni Quarterly*, Vol. 18, 171-179.
[3]Nöller, W., and Schmidt, F. 1930. *Tierärztl. Rdsch.*, 543-544.
[4]Nöller, W., and Korkhaus, R. 1930. *Tierärztl. Rdsch.*, 597-599.
[5]Wetzel, R. 1930. *J. Parasitol*, Vol. 17, 53.
[6]Taylor, E. L. 1930. *Ann. Trop. Med. Parasitol.*, Vol. 24, 545-561.
[7]Schwartz, B., and Price, E. W. 1932. *J. Amer. Vet. Med. Ass.*, Vol. 81, 325-348.
[8]Cobbold, T. S. 1879. *A Treatise on Parasites*, 368-373.
[9]Haltenhoff, R. 1931. *Berl. Tierärztl. Wschr.*, Vol. 47, 553.
[10]Bederke, O. 1931. *Berl. Tierärztl. Wschr.*, Vol. 47, 149-150.
[11]Hall, M. C., Wilson, R. H., and Wigdor, M. 1918. *J. Amer. Vet. Med. Ass.*, Vol. 54, 47-55.
[12]Wood, W. A. 1932. *Univ. of Camb. Inst. of Animal Path. Report of Director for* 1931.
[13]Schulz, R. Ed., and Rajewskaja, S. A. 1929. Abstract in *Berl. Tierärztl. Wschr.*, 1931, Vol. 47, 71.
[14]Stoll, N. R. 1929. *Amer. J. Hyg.*, Vol. 10, 384-418.
[15]Schwartz, B., Price, E. W., and McIntosh, A. 1931. *U.S. Dept. of Agri. Year-book*, 353-355.

Discussion

Discussion on the paper was opened by Mr. Brayley Reynolds, who described the disease as first in importance to the veterinary surgeon concerned principally with horses. His own experience and observation led him to believe that the presence of a parasitic aneurysm was the chief cause of the trouble in animals doing badly, and to doubt whether there was much value in the egg count as a direct indication of its existence. Extraordinarily large numbers of eggs were often passed by animals that never seemed to do badly. In weaned foals and yearlings there was much mortality from acute enteritis, and in practically every case a parasitic aneurysm was very pronounced. He was inclined to think that infection with strongyles was much worse where the grass was long and luscious than where the herbage was short. Horses never seemed to do so well as

when they were grazing near the ground. Some animals were less liable to infection than others, and he had been inclined to think this might be due to a particular family trait. He thought that the picking up of fæces was the first and most important step in prevention, and in regard to this, he would like to know if there was a tendency for the parasites to escape from the droppings at the end of the first 24 hours. It was a pity that breeders were always inclined to conceal the existence of red worms on their studs; it would be much better for them to recognise that they all had it. There was appalling ignorance among owners and managers of studs as to the trouble, and they became needlessly alarmed when they heard of its existence at a particular stud.

Mr. W. H. Brooke spoke of the frequent association of the strongyle with twist of the bowel. In nearly every case, he had found the anterior mesenteric artery infested with strongyles.

Mr. J. Martin said that in his district red worm was at one time very prevalent, and he had seen aneurysms 14 lbs. in weight. It was now dying out, and he attributed this to the fact that larger flocks of sheep were kept, and the grass was thus eaten down. Another means of eradicating it was to keep horses off wet ground in winter.

Mr. Tudor Hughes thought that pastures exposed to flooding were the worst of all for harbouring the worm. The extent of immunity might be affected by upsetting the balance between host and parasite through change of diet and in other ways. Early treatment of infected animals was very important.

Mr. W. F. Aston said he could not claim more than 60 to 70 per cent. of success with the use of chenopodium, though, given a sufficiently empty bowel, the treatment should be satisfactory. He had practised in hilly country, where the pasturage was not long, and the ground was always running with sheep, and many of those places were permanently infected with red worm. Sunshine was a valuable factor in prevention.

Mr. O. V. Gunning considered it would be a great help if something could be found to kill the red worm in the blood stream.

Mr. F. Chambers (President), recognised that prevention of the trouble was most difficult when financial resources were limited. He had noticed that his own hunters did better on bare than on luscious pastures. When there was gross infestation and oil of chenopodium or carbon tetrachloride was administered, and there were no eggs afterwards in the fæces, how could it be determined that the parasites were not still in the animal? It seemed to him that there should be a cycle of dosing to ensure that they were removed.

The Reply

Replying to the discussion, Mr. Taylor said the theory that aneurysms were responsible for a very large percentage of colic in horses was very reasonable, and the only evidence he had against it was the large number of aneurysms that occurred without causing harm. As long ago as 1900, it was established that more than 90 per cent. of horses had these aneurysms in the anterior mesenteric artery. There could be no doubt, however, from the finding of emboli in various parts of the blood supply to the intestine, that the worm did a lot of harm, but one must be very cautious before arriving at a conclusion as to the extent of the harm. As to long grass being more dangerous than short grass, it was unsafe to particularise from general information, but he was sure that close grass was an important factor in verminous gastritis in sheep. It might be that the infective larvæ of some of the horse worms had different habits from those of the stomach worm in sheep. Possibly they climbed up the blades of grass more readily. If the larvæ of the red worm in horses did so climb it might explain the general idea that long grass in damp places was more dangerous than short grass in dry places, but Mr. Aston's suggestion that horses did much better in warm weather rather complicated the point. While it was true that some animals had an individual immunity, he did not think such immunity was hereditary. As to the question whether the first-stage larvæ left the fæces while the latter were on the ground, there was no particular tendency for the larvæ to do so, but if there was rain or heavy dew they could swim out of the fæces; they could not move on a dry surface. In agreement with Professor Reynold's view, he regarded the egg count as of some value. It was useful, for instance, to know if a horse showed an egg count of 5,000 per gramme of fæces, or only two eggs per gramme, but a small difference he regarded as an unreliable indication of infestation. To say that immunity was a kind of balance struck between host and parasite was only another way of stating the idea. It had recently been proved that the strong immunity that dogs developed to hookworm could easily be broken down by malnutrition. If they were starved of any vitamin or were on a low diet they could easily become infected again with hook worm, and he thought it was possible that the same would hold good in regard to the horse. Lack of sufficient fasting probably had something to do with the high percentage of failure which Mr. Aston had experienced in the use of oil of chenopodium. Thirty-six hours' absolute fast was much better than 24 hours' fast, and the efficiency of the drug was greatly reduced if the 24 hours' fast was not strictly imposed. He agreed with the President that in order to ensure that all the worms were removed, it was advisable to give more than one dose. It should not, however, be repeated after too short an interval but after the lapse of one or two months.

MOTOR EXHAUST GAS POISONING IN HORSES

A writer in the current issue of the *North American Veterinarian* records the following cases: "A farmer was in the habit of transporting his Belgian stallion from farm to farm during the stud season in a two-wheeled trailer drawn behind a passenger car. This trailer was very low to the ground, and the horse's head extended over the end of the trailer. One day, while he was travelling from farm to farm, he found that his horse was almost asphyxiated from the motor exhaust gas. The horse was revived in a short time, and the position was remedied by extending the exhaust alongside the trailer by means of a flexible tubing.

"A few days later another farmer used the trailer to haul an aged, wind-broken mare home from a sale and neglected to extend the exhaust. By the time the farmer had reached town, the mare was in great distress and, in a short time, died.

"Practitioners could render a valuable service by drawing the attention of farmers to the danger of death from motor exhaust gas poisoning."

THE LONGEVITY OF PARASITIC WORMS

WITH SPECIAL REFERENCE TO A REPORT OF THE OCCURRENCE OF DIOCTOPHYME RENALE IN THIS COUNTRY

E. LEONARD TAYLOR, B.SC. (LIV.), M.R.C.V.S., D.V.H.
VETERINARY LABORATORY, MINISTRY OF AGRICULTURE AND FISHERIES

In connection with Mr. Gray's report of the finding of *Dioctophyme renale* in the kidney of a dog which two years previously had been brought into this country from India,* it might be of interest to give a few notes on what is known of the longevity of some parasitic worms. We are perhaps rather too ready to assume that all small creatures are necessarily short lived, and some of the reported observations on the longevity of parasitic worms are surprising. The following is a list of some of the records which I have been able to find.

Author and Year.	Species of Worm.	Observed Longevity in Years.
	CESTODES.	
Riley, 1919 ...	*Diphyllobothrium latus*	13
Leiper, 1928 ...	Do.	5
Canavan, 1932 ...	Do.	13 and 15
Banerji, 1930 ...	*Tænia saginata*	8
	TREMATODES.	
Thomas (According to Hutyra and Marek)	*Fasciola hepatica*	5–¼
Montgomerie, 1931	Do.	3
Brumpt (Précis de Parasitologie) ...	*Clonorchis sinensis*	25
Christopherson, 1924	*Gastrodiscus ægypticus*	9
Price, 1929 ...	*Paragonimus kellicotti*	6
Christopherson, 1924	*Bilharzia*	18 and 28
Harper, 1929 ...	Do.	8
Fairley, 1931 ...	Do.	30
	NEMATODES.	
Mhaskar, 1920 ...	*Ancylostoma duodenale*	16
Fallen, 1932 ...	Do.	2–½
Chandler, 1925 ...	*Necator americanus*	15
Caldwell and Caldwell, 1931 ...	*Hookworm in man*	4
Sharp, 1929 ...	*Loa loa*	12 to 15
Knabe, 1932 ...	Do.	15
Morenas, 1929 ...	*Acanthocheilonema perstans*	3½

With one or two exceptions this information has been obtained from the observation of the persistence of infection in man and in domestic animals, or animals kept in zoological gardens, after they have left the endemic or enzoötic area and come to a locality where re-infection could not occur.

I am not aware of any records of observations suggesting that infection with *Dioctophyme renale* occurs in Great Britain, but it is fairly prevalent in some foreign countries. The mink appears to be its most usual host, and in some parts it occurs very frequently in this animal. Lukasiak (1929) found it in 3·76 per cent. of 2,338 dogs in Warsaw.

It is almost permissible to use the word "gigantic" in describing this worm, which frequently reaches a length of one metre, and a thickness of over one centimetre; it usually occurs in the kidney, but is also frequently found in the abdominal cavity and when situated there, peritonitis usually results. This is not always so, however, as Riley (1916) mentions a report by Brumbey of the finding of several specimens in the abdominal cavity, and several in one of the kidneys of a dog which appeared to be in perfect health.

The life history is unknown, but is thought to require the intervention of fishes in the larval stage.

* *Veterinary Record*, 13. No. 13. 276-278.

The Veterinary Record
May 6th, 1933.

POULTRY DISEASES

IT is safe to say that many members of our profession have not yet realised the magnitude of the poultry industry in this country, or the remarkable and steady expansion which it has made during the past decade. During that period it has grown from a small, badly neglected side-line to a national industry of great capital value. Yet a careful review of its development will reveal that the annual rate of expansion is slower than what might be regarded as normal and the reason for this is to be found in the widespread incidence of numerous contagious diseases.

Those who are in close touch with the industry are aware of the dangerous condition of the disease situation; they are familiar with the reports of heavy losses, and of the profound dissatisfaction and helplessness of the poultry farmer in the face of this menace. It is generally acknowledged that the disease problem far outweighs in economic importance all the other difficulties combined which confront the industry. Year after year farmers are forced to give up poultry keeping and many individuals lose their all through the ravages of preventable disease.

What efforts are being made to cope with this immediate, urgent problem, to safeguard the capital invested and give reasonable security to those engaged in the industry? There is no

administrative machinery in this country for the control of avian diseases; the industry is completely at the mercy of any virulent infection that may be introduced from abroad, and the exposure and sale of clinically diseased fowls in our own markets is legally permissible. Indeed, the disposal of diseased fowls in the open market is the routine method adopted by unscrupulous or ignorant owners to overcome a difficulty and cut a loss.

In these circumstances a heavy responsibility rests on the Veterinary Profession, and particularly on the general practitioner, in advising and educating poultry farmers on modern methods of disease control.

We believe there can be little improvement in this unsatisfactory and menacing situation until our profession recognises its duty and gives its assistance in an advisory capacity to the poultry industry, a rôle for which it alone is adequately trained.

General practitioners would do well to remember that over 80 per cent. of the eggs and poultry produced in this country come from general farms, that is, from farms which they visit in the ordinary routine of their professional duties. Are they prepared to admit they have no interest in avian diseases and stand aside while their client consults a layman on some problem which is causing him heavy financial loss? Are they prepared to watch meekly an untrained layman carry out tuberculin tests on poultry? Many impartial persons would claim that a man who was competent to make an intradermal test on poultry would be equally competent to make a similar test on cattle.

The Ministry of Agriculture has realised that the co-operation of the Veterinary Profession is essential to the prosperity of the poultry industry, and has recently sent one of its research officers, Mr. Norman Dobson, B.Sc., to lecture and demonstrate to various Divisions of the N.V.M.A. [The text of Mr. Dobson's lecture was reproduced in our last issue.—Ed., *V.R.*]

It is to be hoped that the clear and practical manner in which Mr. Dobson has dealt with the various disease problems will stimulate members to take some interest in this subject, as by doing so they will bring sorely-needed help to the poultry farmer and increase their own professional prestige.

Camberwell Borough, London, recently changed from horse to motor vehicles for borough cleansing purposes, but they have discovered that the new arrangements do not adequately meet the situation and it has been found necessary to get a number of horses to fill the gap.

In Parliament

The following questions and answers were recorded in the House of Commons recently:—

Milk (Grading and Designation)

Brigadier-General Clifton Brown asked the Minister of Health whether, in view of the recent case in which the United Dairies Company were fined for selling bottles of milk under an illegal nomenclature, he will take steps to carry out the recommendations of the Milk Reorganisation Committee as regards the proper designations of milk so that the public may know what they are buying?

Sir H. Young: The recommendations of the Milk Reorganisation Commission as to the grading and designations of milk would involve fresh legislation, and I could not undertake to introduce legislation on this subject during the present Session. The case referred to in the question shows that under the existing law a conviction can be obtained for the misuse of a prescribed designation.

Brigadier-General Brown: In view of the fact that the Commission found that the nomenclature of the grades of milk was complicated and confusing, and in view of the fact that even a large firm like United Dairies can make mistakes in this matter, does not the right hon. Gentleman think that it is a matter of urgency that he should take action in the interests of producers and consumers?

Sir H. Young: I can assure my hon. and gallant Friend that the recommendations of the Commission will receive the most serious consideration.

. . . . .

Russian Ponies (Import)

Sir C. Rawson asked the Minister of Agriculture whether his attention has been drawn to the fact that, in spite of the difficulty of finding a home market for Dartmoor, New Forest, and Exmoor ponies, 300 ponies were disembarked at the port of London in 1931; and will His Majesty's Government take steps to place an embargo on imports of ponies from Russia?

Major Elliott: The commodities included in the recent Royal Proclamation issued under the Russian Goods (Import Prohibition) Act covered the great bulk of imports into this country from Russia. Certain items of lesser financial importance for reasons of administrative convenience were not included, and among these were ponies, of which only eleven were imported into the United Kingdom from Russia last year. I do not, therefore, see my way to adopt my hon. Friend's suggestion. My hon. Friend will, of course, recognise that the Act was not passed for the purpose of protecting producers in this country.

THE KING'S PREMIUM FOR FELL PONY BREEDING

The King's gift of £20 to encourage Fell pony breeders to continue breeding ponies in spite of the withdrawal of the Ministry of Agriculture's premiums bore fruit at the Penrith Spring Horse Show, when considerably more interest was shown than for the past two years. The King's premium for a stallion three years old and upwards was awarded to Mr. Roy B. Charlton, of Linnels, Hexham, for his five-year-old black pony Linnel Lingcropper, which won at the National Pony Show in London in 1931 and 1932.

Clinical and Case Reports

TUBERCULOSIS IN A FOX TERRIER*

F. J. TAYLOR, M.R.C.V.S.
Oxford

Subject.—Pedigree smooth fox terrier dog, aged only three years, the constant companion of a perfectly healthy lady owner.

History.—When brought to me a fortnight ago, the owner mentioned a previous gastro-intestinal hæmorrhage about nine months previously, from which the dog seemed to recover, but it had remained thin and rather devoid of energy since the attack.

Symptoms.—When first seen by me on January 9th last, there was pronounced emaciation, and anæmia causing an almost colourless condition of the mucous membranes. The pulse was variable, being almost imperceptible sometimes and at others abnormally full, rapid, but weak in volume. Temperature remained at 103·8° F. for five days, then became sub-normal for a week before death. There was no sickness or diarrhœa, but about every other day black digested blood clots were evacuated. The appetite was unusually good throughout. The predominant feature of the case was a typical cardiac grunt which was accounted for by an enlarged liver, pericarditis and hydrothorax which were diagnosed before the *post-mortem.*

Post-mortem.—This revealed well-established tuberculous growths in the region of the pericardial sac, which contained a copious exudate. The jejunum and duodenum were surrounded by a tuberculous growth, which was in a caseous stage. The liver (exhibited) was enlarged and caseated. The thoracic cavity was very full of tuberculous fluid containing numerous acid-fast bacilli. Smears did not reveal tuberculosis bacilli. Sections were, however, positive.

Discussion

Major Hamilton Kirk said that he had never seen a dog's liver like the specimen, although he had seen tuberculous growths about the bowel. He thought he was correct in believing that in tuberculous lesions of the liver there was never any grittiness in canine subjects.

Lieut.-Colonel H. Greenfield recounted a similar case in a six-year-old dog.

The dog had been wasting for three months; it had a cough, tachycardia, and enlarged prescapular and popliteal glands. Appetite was good and it had no special thirst, but it was very depressed. The dog fell with syncope, causing the owner to seek professional advice. Breathing was somewhat laboured and examination revealed a dull area in the region of the heart.

As wasting in condition became progressive, a second opinion was obtained from Professor J. G. Wright, who diagnosed tuberculosis.

Post-mortem revealed a growth, the size of a goose egg, in the region of the bronchial glands, which were tuberculous in appearance, but diagnosis was deferred at the Royal Veterinary College, pending pathological examination. The report was not yet to hand.

Mr. T. A. R. Chipperfield described the case of a five-year-old Sealyham which died from acute pleurisy. The mediastinal lymph glands had shown similar lesions to those of Major Taylor's specimen. The case was thought to be one of sarcoma and Dr. Hare, to whom he took it, found it definitely tuberculous.

* Case presented, with exhibit, to the Royal Counties Division, N.V.M.A., on the occasion of the Annual General Meeting, held at Reading, on January 27th, 1933.

* * * * *

HODGKIN'S DISEASE IN THE DOG

J. N. BOWEN, M.R.C.V.S.
Wolverhampton

Judging by the sparsity of cases of this disease recorded in veterinary literature, it would appear that the condition is rarely met with in the lower animals; the small animal practitioner, however, is wise to keep always in mind the possibility of its occurrence. It happens not unfrequently that one is called to examine and treat a dog which, apart from showing periodic lassitude, presents no outstanding symptom to aid one in diagnosis. The history given in such cases is always vague and unsatisfactory, and unless quite exceptional pains are taken, with repeated examination extending over a period of a few days, it is more than likely that its true nature will be missed and a false prognosis given. So far as can be ascertained, the condition is invariably fatal, death usually occurring after a few weeks, though it may ensue after several months, as is illustrated by the case described below.

A smooth-haired fox terrier, male, aged three years, was admitted into the infirmary on March 25th of last year, with a history of having fallen off in condition despite a well-maintained appetite. Periods of listnessness had been noted, and a rather "anxious expression" was assumed. At the time of examination the temperature was 101·6° F., and no abnormality was discovered. During the subsequent days, however, the animal exhibited an increasing dysphagia, and the temperature rose to 103° F. The former was never serious, and the animal suffered no ill consequences beyond taking a little longer over a meal. Such a symptom naturally leads one to make a thorough examination of the throat region, and when this was done a small, hard, nodular body was felt lying, deeply seated, immediately over the larynx. No diagnosis was attempted at this stage, but the possibility of tuberculosis or new growth was kept in mind. Pot. Iod. was given in gr. v doses t.i.d., but by April 5th it had increased in size to such an extent as slightly to alter the symmetry of the part. The animal had become very emaciated, although the appetite was still good. An interesting feature at this stage was the appearance of a unilateral œdema of the face, no doubt due to the pressure exerted on the jugular and its branches.

XUM

On the following day, the animal was operated upon. An incision was made in line with the course of the jugular immediately over the "growth," and the latter, which proved to be a cervical lymphatic gland, was removed by blunt dissection. Smears from this failed to reveal the presence of acid-fast organisms, and it was dispatched to the laboratory for histological examination. No evidence of malignant growth was found, but the report received stated it to be "an acute lymphadenitis with destruction of the lymphocytes and over growth of the reticular cells." Recovery followed quickly, after the operation. The temperature fell to normal, and the œdema subsided gradually. Fourteen days later the animal was dismissed from the infirmary.

Course.—Nothing further was heard of this case until August 6th, when the animal was again brought into the infirmary. The owner reported that during the first few weeks at home the dog had thrived, putting on weight daily, and showing all the signs of once again assuming an active life. Unfortunately, this state of affairs was not maintained for long, for early in July the poor creature again began to lose condition. Listlessness became more and more marked, but the appetite remained unimpaired. Examination was again negative. Temperature was normal. The pulse although frequent, was good in tone. A search for other hypertrophied lymphatic glands also proved negative. In three days the temperature again rose to 103° F. It was also noticed that when the animal assumed the recumbent position he did so in such a manner as suggested an attempt to remove pressure from certain parts within the abdomen. Palpation of this area showed tenseness, but no pain was evinced. Treatment was attempted without success, and four days later the animal was destroyed.

Post-mortem Appearances.—The pathological lesions were confined to the mesenteric lymphatic glands. These showed nodular hypertrophy to such an extent that they appeared as a single "growth" filling the whole of the abdominal cavity. The intestines were accommodated in a maze of channels which ramified throughout the mass. The other organs of the abdominal and thoracic cavities showed evidence varying from slight to very severe anæmia. The spleen was only slightly enlarged. Microscopic examination of the mesenteric lymphatic glands showed a condition of progressive lymphadenitis with a tendency to cicatrisation in the older nodules.

It is interesting to note that although the disease undoubtedly originated in the cervical lymphatic glands, no lesions were found in these on *post-mortem*. It is a matter of speculation whether the removal of the gland in April played any part in prolonging the animal's life, but it is worthy of mention that the cervical lymphatic gland is often the seat of origin of this condition in the human subject, and that resection is not uncommonly resorted to in the course of treatment.

* * * * *

AFRICAN HORSE SICKNESS

T. A. B. COCKSEDGE, M.R.C.V.S.
Chief Veterinary Officer, Somaliland

Following on my short account of treatment of a few cases of the above disease (*Veterinary Record, 12*, 31, page 878), I think it may be of interest to give a few more notes.

Carrying on treatment on the same lines as previously described, a further 27 cases were treated with resulting cures in 50 per cent. of them. All the cases were very definitely those of horse sickness, and, in my opinion, the treatment was distinctly beneficial.

I modified the treatment somewhat in that I continued the giving of the simple febrifuge for twelve hours after the temperature had dropped below 100° F., even if I obtained a sub-normal temperature.

At present, I am of the opinion that there are three essentials:—

1. Treat the cases in the early stages.
2. Push the febrifuge and continue after the temperature is reduced.
3. Give medicine by the stomach-tube only. I think it is unlikely that an animal will be given medicine with any safety by the older method of oral-drenching.

Should we be unlucky enough to have a further outbreak this year, I fully intend to carry on on these lines, and hope to amplify the treatment in cases of collapse, etc., but I hope someone else will attempt treatment and let us hear the results. I am aware that the treatment is very empirical, but anything is preferable to resigning one-self to a policy of masterly—or what is generally in these cases unmasterly—inactivity.

SHEEP BREEDERS' CONFERENCE

The National Sheep Breeders' Association announces that the thirty-second International Conference of Sheep Breeders will be held at Derby, on Monday, July 3rd, the day before the opening of the Royal Agricultural Society's show. The subject for discussion will be a paper on "A Consideration of Some Sheep Diseases, their Prevention and Treatment," to be read by Major T. Dalling, M.R.C.V.S., veterinary superintendent, Wellcome Research Laboratories, Beckenham, Kent.

* * * * *

ANOTHER BREED OF SHEEP DOG

Mr. Lionel S. Taylor, of Prestatyn, Wales, possesses a strain of dogs resembling the red fox of Britain in appearance. They belong to an interesting race of dogs native to the northern district of Lapland and that are rather scarce to-day, although at one time they were the cattle herding dogs and watch dogs of that northern land. They are called the Finsk Spets, and were one of the principal attractions at the last Cruft's Show. They are alert, plucky, strong on the scent, and great sporting dogs. It would appear that they are amenable to training.

Abstracts

[Deficiency Diseases. Roy. Soc. Med. Discussion. *Lancet.* 1933. Pp. 695-6.]

Study of deficiency diseases affords one of the most potentially fruitful fields of comparative effort—a statement in support of which striking evidence was provided by this discussion by the Section of Comparative Medicine of the Royal Society of Medicine.

Sir Arnold Theiler opened, giving a survey of the development of the study of mineral deficiency diseases of domestic animals in South Africa. Details of a series of feeding experiments were given by which was elucidated the true nature of lamsiekte—a toxæmia following the ingestion by the mouth of a toxin formed by *B. botulinus*—of bovine avitaminosis, and of " stiff sickness "—a pure phosphorus-deficiency condition.

The exclusion of vitamin factors was practised for many months without any sign of avitaminosis appearing; another group, given a sufficiency of phosphorus with a deficiency of calcium, developed and calved normally, but showed retention of the fœtal membranes; a group given a diet deficient in phosphorus, but with a calcium sufficiency, showed osteomalacia and rickets, whilst a group deficient in phosphorus and calcium showed the same conditions to a yet more marked degree.

The histological changes produced in the osseous tissue by deprivation of, or variation in, the vitamin, calcium and phosphorus content of the experimental diets are recorded. In the group deficient in phosphorus, atrophy of bony substance was advanced. In general the picture resembled very closely the conditions of osteomalacia and rickets of human beings, though the atrophy is not seen in them—but the difference was one of degree; it was not a fundamental one.

Professor J. S. Cowell classified human deficiency diseases as (*a*) true deficiencies, (*b*) conditions due to some harmful factor which would be neutralised by the factor which was deficient, and (*c*) diseases normally produced by toxic or infectious agents, but which were more likely to occur in the absence of some special dietetic factor. He described the common vitamin-deficiency diseases met with in England.

Dr. H. M. Green referred to Mellanby's finding that experimental vitamin deficiency in the dog might be followed by degeneration of sensory nerves, and discussed the theory that deficiency in vitamin A results in a generalised lowering of resistance. Attempts to show the influence of vitamins upon antibody content had produced conflicting results. Probably there was a very slight lowering of resistance to all types of disease, and a greater lowering in certain specific infections.

In the view of Mr. M. C. Franklin, who described the results of deficiency investigations in New Zealand, much of the work done upon the mineral deficiencies needed revision. Quoting the case of mairoa disease of sheep, said to be due to calcium deficiency, he said that sheep had been fed on synthetic rations containing a far lower intake of calcium than that of sheep grazing on mairoa areas, without showing ill-effects. Top-dressing of pastures improved the quality of the herbage apart from its mineral content, which might account for the beneficial results following such treatment.

Mr. H. H. Green, D.Sc., stated that in the phosphorus-deficient soil of the Strandveld, in South Africa, fracture of the pelvic bones was common, ewes rarely showed œstrum and lambs were brought in and reared for the resultant light fleeces of very fine wool, which fetched an abnormally high price. Cattle in such areas showed derangement of the œstral cycle and generally calved once in two years. The inorganic blood phosphorus content bore a direct relation to the phosphorus content of the soil over which the animal was grazing, and it was being used as an index in a geographical phosphorus survey in South Africa.

Mr. W. R. Wooldridge, Ph.D., M.R.C.V.S., said that in the pig it had not been possible to produce vitamin-C deficiency, whilst signs of vitamin-A deficiency appeared only after very long periods of dieting. Rickets could readily be produced by either vitamin D or calcium deficiency. The presence of bone phosphatase as well as of calcium and phosphorus was necessary for the avoidance of rickets, whilst vitamin D played a part in controlling the absorption of ions through the wall of the alimentary canal. In addition a balance of all the vital elements was essential; for instance, excess of potassium resulted in a decrease in the retention of calcium and phosphorus, and a condition resembling rickets resulted. The concentration of calcium and phosphorus ions in the tissues was regulated by hormones and by the sugar metabolism which took place through the organic phosphate state. Mr. Wooldridge concluded by asking clinicians whether vitamin treatment was useful in xerophthalmia and in paraplegia of the dog occurring as sequelæ to distemper.

Professor G. H. Wooldridge, F.R.C.V.S., said that cod-liver oil was useful in the treatment of eye conditions of dogs. In paraplegia, and more particularly in hyperæsthetic conditions of the skin, vitamin-B treatment was most useful.

Mr. Henry Gray, M.R.C.V.S., said that proper food was not merely a question of a balance of food factors. The food must be given in the proper form. Feeding dogs on tough meat and

bone from an early age was a good safeguard against pyorrhœa.

Mr. J. T. Edwards, D.V.SC., asked if the present theory of the causation of milk fever was tenable in view of the facts brought forward at the meeting. Replying, Mr. H. H. Green said that milk fever cases showed a low calcium content of the blood which appeared to be unrelated to the calcium content of the diet.

Professor J. G. Wright, F.R.C.V.S., asked if milk fever occurred in the phosphorus-deficient areas of South Africa, to which Sir Arnold Theiler replied that milk fever was practically unknown in South Africa. W. B.

* * * * *

[A Form of Swamp Disease of Horses and its Cure. Cicogna, L. 1932. *La Clinica Veterinaria.* lv, 960-971.]

Blood parasites of equines are spreading in Italy, especially in wooded and swampy ground. The disease discussed by Cicogna is Nuttalosis carried by *Rhipicephalus bursa* and being most important in spring or early autumn. Temperatures were high and fluctuating, the conjunctiva yellow, œdema present in the abdomen and often irregularities in digestion. As a rule, only two or three parasites were present in a field: ring forms prevailed, but pear- and cross-shaped parasites were also seen. In advanced stages or in convalescence, marginal dots were also observed. In his experience the best remedy was anilarsenate of sodium or trjpoxyl (monosodium salt of p-arsanilic acid). Three to 5 gms. in 10 c.c. of distilled water is injected at three-day intervals at the lower end of the neck. Care must be taken that the temperature during sterilisation does not exceed 65° C., or the drug will decompose. This treatment causes an immediate drop in temperature, disappearance of hæmoglobinuria and return of appetite. Four cases are described in detail. No occasion arose to try this drug in the other form of piroplasmosis in the horse, which is most evident in summer, rather than in spring.

T. W. M. C.

* * * * *

[Coccidia (Globidium) Parasites of the Connective Tissue of the Horse. Henry, A., and Masson, G. *Bulletin de L'Académie Vétérinaire.* Vol. 5. No. 10.]

The nature of the curious Sporozoa found in the skin and subcutis of the ox has been disputed, but to-day it is admitted that they are coccidia, the usual seat of which is the intestinal mucosa.

The authors call attention here to similar forms in the subcutaneous tissue of the horse which up to now have not been described. These were found during the examination of a museum specimen from a horse condemned 12 years ago at the abattoir of Rheims for sarcosporidiosis.

The specimen consisted of fragments of aponeurosis and of panniculus, and in them were observed *spherical* grains situated in the *connective tissue*—two characters which cast doubt on the correctness of the finding. While Sporozoa are found in the muscle fibres, these objects were always in connective tissue. The parasite is surrounded by a cyst whose outer wall, of considerable thickness, belongs to the subject, while a fine membrane surrounds the parasite itself. The parasitic formation in the horse, then, is similar to that observed in the ox. They are to be interpreted as errant forms coming from the intestine (their normal habitat) by way of the blood or by way of the skin. The thickness of the capsule surrounding the parasite forbids its further evolution.

Intestinal coccidia are known not only in the horse and ox but also in the sheep and dromedary, and it is possible that connective tissue forms exist in these.

A cutaneous coccidiosis has been described in the pig with formation of oöcysts (*Coccidium fuscum*) and similar oöcysts in the intestinal mucosa (*Eimeria scabra*). W. R. D.

* * * * *

[The Diagnosis of Pregnancy in the Mare by the Biological Test in Mice. Karmann, P., and Fr. Wiethoff. *Tierärztl. Rdsch.* January 1st, 1933. No. 1. pp. 1-4. 17 refs.]

Kust and his co-workers have been able to demonstrate the presence of an ovarian hormone in the urine of pregnant mares by injecting this subcutaneously at intervals into young, female white mice. As this not infrequently leads to the death of the mice before smears made from the vaginal mucus showed any changes, they were led to an examination of the serum. This proved to be more satisfactory.

The authors of this article confirmed the above work. They found that an examination of three smears instead of the usual five was sufficient to demonstrate the characteristic cells and that in their hands serum gave a positive reaction (43-51 days after the commencement of pregnancy) on an average much earlier than urine (43-100 days). N. S. B.

* * * * *

[Inoculations Against Swine Fever. Graub, E. *Schweiz. Archiv. f. Tierhlk.* 1932. Vol. 74, No. 12.]

I. Serum Alone.—Antiserum against swine fever has been used with great advantage in Switzerland in the last ten years and the author here discusses its value and failings.

Serum is useless curatively in cases of severe illness in infected swine, is of value in already feverish pigs not showing clinical symptoms and is of most value in aborting an outbreak in a farm where the disease is promptly discovered. If the serum is given at the correct moment with respect to the occurrence of the infection, the

virus is resisted by the injected antibodies and an active immunity develops, whilst, if the virus has not entered the body at the time of or soon after serum treatment, only a passive immunity of short duration is conferred and the animal becomes again susceptible. It is thus greatly to be desired that serum-inoculated swine should become infected naturally at the right moment, so that an active immunity can be acquired. No isolation should therefore be practised in a herd found to be infected, but serum inoculations should be carried out when, and not before, five to ten per cent. of the animals are showing symptoms. The author's instructions to practitioners in the use of serum are given in full in the original. [Dr. Gräub runs a veterinary bacteriological, etc., institute at Bern.] He recommends the artificial infection of serum-treated pigs by the feeding to them of defibrinated blood taken from a severe case from the same farm, the latter being killed for the purpose.

In the conclusion of this section, the author quotes from the published results of various German workers on the effectiveness of serum and the average mortality following its employment.

II. Simultaneous Inoculation.—It is well known that swine fever virus varies extremely in potency in different localities and this fact sets immunisation by the simultaneous method at a great disadvantage. Expert opinion is divided between the use of farm-specific and institute (stock) virus, some recommending one and some the other. It is agreed, however, that both virus and serum should be of considerable potency. Hungarian workers have found that no plurality of swine fever virus exists. The matter of excretion of virus is important. Pigs given the simultaneous inoculation excrete virus in their urine and fæces just like naturally-infected animals; the excretion ceases about four weeks after inoculation, but the virus remains present in their blood and internal organs for a much longer period.

Most European workers do not order simultaneous inoculation in disease-free farms, reserving it for infected places: the Americans, on the other hand, practise a universal simultaneous inoculation as being more suitable for a country in which eradication cannot be hoped for. In Europe it is the general practice to give serum and virus only to pigs not showing illness. Pregnant sows are better not inoculated as they as likely to abort or produce dead offspring and it is considered inadvisable to treat sucking pigs with the simultaneous method, but to do this at four to six weeks of age or after weaning.

Important factors in swine fever immunisation are the general health of the pigs and secondary bacterial infection. Pigs showing signs of malnutrition are bad subjects for inoculation and, with regard to the latter factor, it is being recognised that *B. suipestifer* may exist independently of the virus infection or together with it in varying degree, so that a further basis for immunisation risk arises. The state of health of the animals to be immunised is thus of paramount importance. In successful cases pigs acquire an active immunity lasting some six months, and it is advisable to give such animals as are intended for breeding a second inoculation of virus about three weeks after the simultaneous inoculation, although some fatalities have been observed following this plan. The mortality following the plain simultaneous inoculation on old-infected farms is commonly some ten per cent. or less.

The author has collected much important information in his article and gives a useful reference list. J. E.

* * * * *

[Experimental Icterohæmorrhagic Jaundice of the Lamb, Goat and young Pig. Melanidi, C., Tzortsaki, N., and Devonera, G. *Rév. Gén. de Méd. Vét.* February 15th, 1933.]

Domestic animals being considered refractory to the transmission of Leptospira, the authors proceeded to study the behaviour of some of these animals when inoculated with an organism of human origin from the Syrian outbreak of 1932. A lamb eight months old, inoculated intra-testicularly with material from a guinea-pig dead of icterohæmorrhagic jaundice, showed on the following day a high temperature and local œdema. On the second and fourth days following inoculation, Leptospira were demonstrated in the general circulation by inoculating guinea-pigs with blood from the jugular vein, these animals dying from typical icterohæmorrhagic jaundice. The lamb suffered from an acute conjunctivitis which persisted up to the tenth day, though by then the general condition was much better. Eighteen days after inoculation the lamb was bled and the separated serum was found to have a strong protective action against the homologous strain of Leptospira when inoculated into guinea-pigs. Exactly similar results were obtained by an injection given intra-peritoneally to a nine-months-old lamb. A lamb nine months old inoculated intra-cerebally showed loss of appetite and slight conjunctivitis, but Leptospira could not be demonstrated in the blood.

With an eight-months-old goat inoculated intra-testicularly results were the same as in the case of the lamb inoculated by the same route.

Two young pigs inoculated intra-testicularly ran a high temperature and showed local œdema, but no eye symptoms. Inoculation of their blood into guinea-pigs at the height of fever gave a negative result.

D. W. M.

XUM

NATIONAL VETERINARY MEDICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND

Quarterly Meeting of Council

There was an excellent attendance at the April, 1933, Quarterly Meeting of Council, N.V.M.A., which was held, with the President (Lieut.-Colonel P. J. Simpson) in the Chair, at 10, Red Lion Square, London, on Tuesday, the 4th of the month.

The attendance book was also signed by the following: Captain L. S. Balls, Messrs. H. Bell and H. W. Steele Bodger, Professor J. B. Buxton, Captain H. W. Dawes, Major A. C. Duncan, Major G. W. Dunkin, Mr. H. Gooch, Major H. Kirk, Messrs. E. C. Lloyd, G. H. Locke and R. Lovell, Captain J. F. Macdonald, Professor James Macqueen, Messrs. G. P. Male and G. T. Matthews, Major-General Sir John Moore, Mr. R. Barons Nelder, Major R. H. H. Over, Mr. J. O. Powley, Major D. S. Rabagliati, Mr. W. D. Rees, Captain J. R. Rider, Dr. J. T. Share-Jones, Mr. Harry P. Standley, Major F. J. Taylor, Captain W. K. Townson, Professor A. W. Whitehouse, Messrs. J. Willett, R. A. Willett and W. Woods, Professor G. H. Wooldridge, Dr. W. R. Wooldridge, Mr. J. W. McIntosh (Hon. Secretary) and Captain W. G. Wragg (Hon. Treasurer), together with Mr. C. O. Langley (Solicitor) and Mr. F. Knight (Secretary).

The minutes of the January meeting of Council, having been published in the *Veterinary Record*, were taken as read, confirmed and signed.

Arising therefrom, the Secretary recalled that at the January meeting a letter was read from the Scottish Society of Veterinary Inspectors, seeking information as to the possibility of that Society becoming a Division of the N.V.M.A. while retaining complete freedom of action. As then instructed, he had sought the views of the Scottish Branch on this enquiry, and these he communicated to the Council.

After discussion, the Council confirmed their previous decision, *viz.*, that while they would give sympathetic consideration to an application from the Scottish Society of Veterinary Inspectors for divisional status, they regretted that they could not agree to that Society being given, as a Division, wider freedom of action than was enjoyed by the existing Divisions.

CORRESPONDENCE

(1) Apologies for absence from Dr. O. Charnock Bradley, Mr. J. C. Coleman (owing to indisposition), Lieut.-Colonel J. A. Dixon, Mr. P. F. Dolan, Mr. A. A. Donnelly, Mr. Arthur Gofton, Sir Frederick Hobday, Mr. L. Hughes, Captain H. Tudor Hughes, Major J. G. McGregor, Major E. S. Martin, Captain S. J. Motton, Mr. A. L. Mullen, Mr. W. Nairn (on account of influenza), Captain A. W. Noel Pillers, Captain J. W. Procter, Mr. J. N. Ritchie, Professor W. Robb, Captain R. Simpson, Major A. Spreull, Major J. H. Taylor, Mr. Alex. Thomson, Mr. W. Tweed and Lieut.-Colonel T. Dunlop Young.

(2) From Sir Frederick Hobday, dated January 8th, 1933, and addressed to the Secretary, as follows:—

National Veterinary Medical Association.

"Dear Mr. Knight,

"Will you kindly convey my warmest thanks to the President and members of Council of the National Veterinary Medical Association for their courteous message of congratulation, and say how much I appreciate the kindly spirit which prompted them to send it.

"Yours sincerely,

FREDERICK HOBDAY."

(3) From Dr. Basil West, returning grateful thanks to the President and members of Council for their expression of sympathy with him in the loss of his father (Mr. E. Alfred West: late Hon. Treasurer, N.V.M.A.) and also expressing his deep appreciation of the tribute paid by them to his work for the profession and the N.V.M.A.

(4) From the Secretary, Ministry of Agriculture and Fisheries, dated February 22nd, 1933, with reference to the Ministry's publications relating to diseases of animals, in the following terms:—

"I am directed to inform you that the Ministry has given careful consideration to your letter of January 30th regarding the Ministry's publications relating to diseases of animals, and in reply to point out that for a period of 40 years the Department has issued leaflets and other publications on that subject generally. No essential change has been made in the type of guidance provided throughout this period, and the Ministry has every reason to believe that the leaflets have served a useful purpose and have been valued, not only by farmers and stock breeders, but also by police and county officials and others concerned in the repression of animal diseases.

"The Ministry holds that it is of the greatest advantage to stock owners that they should have a correct appreciation of the nature and cause of the more serious diseases of livestock, whether these fall within the scope of the Diseases of Animals Acts or not. Leaflets were the original channel by which the Department sought to provide the necessary guidance, but there has been no change of policy with the introduction of Bulletins; indeed, a large part of Bulletin No. 1 has long been existent in the form of leaflets, though the material has been brought up to date. Regarding the matter broadly and apart from minor details, the Ministry suggests that preponderating weight is to be attached to the educational effect of the publications as a whole.

"I am also to point out that, in the interests of the stock owner himself, the utmost care has been taken to indicate, where necessary, that he should consult a veterinary surgeon: and the more the stock owner is enabled to appreciate the serious nature of the diseases dealt with in the publications the more readily will he seek professional advice. It is suggested that this aspect of the question is deserving of full recognition by your Council.

"In conclusion, I am to say that the Ministry is always ready to give every consideration to the views of your Council, but in the interest of

stock owners and of a reduction in the incidence of diseases of animals, it is not prepared to make any change in its well-established policy of publishing information which it believes will be generally helpful—and not least helpful in directing the attention of stock owners to the valuable services that can be obtained from the veterinary profession."

The President enquired if the Council, having heard that letter, desired that any further action should be taken in the matter. The Ministry had, he thought, given a fairly reasonable answer to the Association's representations.

Major H. Kirk asked if it were not a fact that what the Association complained about was that particulars of treatment were included in the Ministry's publications. The Ministry carefully refrained from mentioning that fact in the reply.

The President replied that that was certainly one of the things against which the Association protested, the terms of the Association's letter to the Ministry having included the words "more especially with regard to veterinary treatment."

Major Kirk thereupon moved "That a further letter be sent, requesting the Ministry specifically to exclude treatment from its publications relative to animal diseases."

The motion was seconded by Mr. R. B. Nelder and carried unanimously.

(5) From the Hon. Secretary of the National Veterinary Benevolent and Mutual Defence Society, dated March 17th, 1933, in the following terms:—

"At the Annual General Meeting of the above Society, held on the 15th instant, I was instructed to convey to your Association the very best thanks and appreciation of the Society for the assistance given during the past year, particularly with reference to the free publication of announcements in the *Veterinary Record*."

Veterinary Inspection Service

(6) From Mr. J. W. Hall Masheter, Ruddle House, Newnham-on-Severn, dated April 1st, 1933, as follows:—

"To begin with, I wish to state emphatically that there is no animus either by myself or my correspondents against practitioners—*qua* practitioners—who are at present holding whole-time appointments under county councils.

"This protest is directed solely against the idea that the work under the Tuberculosis Order and the Milk and Dairies Order can be done more efficiently and more economically by whole-time men, and the gross injustice of replacing part-time men who have hitherto done the work so successfully.

"For over 50 years the part-time man has borne the brunt of the fight against disease, and the profession should be proud of the stalwarts who, in addition to their private practice, have cleared the animal world of many of its worst infections and contagious diseases. They were part-time men or private practitioners, remember, and I have no hesitation in saying of the present part-time men and of practitioners who hold no public appointments that 'the mantle of Elijah has fallen upon Elisha.'

"It is inconceivable that these men, who have been the first line of defence against disease for the last three or four decades, should be ousted from their positions—positions they have filled with credit and to the satisfaction of the public—at short notice, simply because the Chairman of the Milk Reorganisation Committee has been misled by biased professional opinion. I have no hesitation in saying that the Grigg Commission has been wrongly advised, and I have to ask, in justice to the part-time man, and the country practitioner who ought to be a part-time man, that a very strong stand should be made by the National Veterinary Medical Association of Great Britain and Ireland—and through them by the Council of the Royal College of Veterinary Surgeons who represent, or should represent, the whole of the Veterinary Profession and in particular the general practitioners who, form the bulk of their constituents, and who are in country practice—against this bureaucratic recommendation.

"It is not that the men are incapable—they are most capable, for the simple reason that it is a case of the 'survival of the fittest,' for there is no doubt that if an incapable man attempts country practice he is doomed to failure.

"Who is, or who can be, more capable of carrying out these duties than the established veterinary surgeon in country practice, who has made, of necessity, his life work the study of the bovine? The gradual building up of a Veterinary Health Service has been due to the efficiency of men in country practice, and the emoluments from that service have been anything from a quarter to a half of his income. These fees, since 1921, when the 'bottom fell out' of all trades and occupations, have been his mainstay. Since that date his fees from farming practice have been carried over quarter by quarter, receiving 'here a little and there a little' on account, and in numerous cases the debt has been wiped out by bankruptcy or Deeds of Assignment on the part of his client. I have had many of these in the last year or two, and, according to the numerous letters I have received, most country practitioners are in the 'same boat.'

"Is it fair? Is there any justice in taking away the mainstay of the country practitioner? What will be the result if steps are not taken to stop this flood of whole-time men? The result will be—and I give this warning in all seriousness, and this is borne out by my correspondents—that the country, as apart from towns, will be denuded of veterinary practitioners.

"This has already commenced in certain districts. In one district, according to a correspondent, there were five practitioners. Now there is only one and he is scarcely making a living. Three death vacancies have not been filled, and, on account of whole-time service, another practitioner has left the district.

"This, I venture to predict, will be the fate of many more if the recommendations of the Grigg Commission are carried out. It is the 'writing on the wall,' and unless the Government of our Profession makes a firm stand against that recommendation, bureaucracy is the only future of our profession—a Soviet régime is inevitable. I do not wish to stress the matter too much.

"This is the gist of the many letters I have received: If the appointment of whole-time officials is persisted in, a crisis will arise in the profession which will possibly be an end to all country practice and the position of the schools will become impossible without Government aid, and we know what a broken reed that is.

XUM

"On behalf of correspondents in the counties of England and Wales, and some in Scotland, I present this petition to the Council of the National Veterinary Medical Association of Great Britain and Ireland for their urgent consideration."

In addition to that petition, said the President, there was a further letter, from Mr. Hall Masheter, in which he outlined a scheme for carrying out veterinary inspection in dairy herds. He (the President) now desired to know if the Council desired that any action should be taken.

Dr. A. W. Whitehouse enquired if any member of Council had gathered exactly what Mr. Hall Masheter wanted, because he had not. The writer was very eloquent, but he (Dr. Whitehouse) did not get anything very definite out of it.

Mr. J. W. McIntosh said that he had no doubt at all as to what Mr. Hall Masheter meant; indeed, he sympathised very fully with his views. It must surely be obvious to anyone that any further encroachment on the rights and privileges of the private practitioner would seriously interfere with his livelihood and might result in his disappearance altogether from many districts. This, he ventured to think, would be a disaster, from the stock owners' point of view alone.

He would view with the greatest concern any attempt to emasculate private endeavour and enterprise. Practitioners had already suffered much in the way of "whole-time" appointments. It must be remembered that as these *ad hoc* salaried services were being set up, something was being lopped off the work of the practitioner every time, and his position and status were not likely to improve.

It was the duty of that Association to do everything within its power to maintain the interests of their most essential branch of veterinary work, and he would like to suggest that the correspondence be referred to the Parliamentary Committee to consider, with power to act if thought necessary and advisable.

Major Dunkin seconded the motion.

The President invited discussion, and Dr. Whitehouse stated that the points made by Mr. McIntosh were all very clear, but they did not give them any lead as to what steps actually should be taken. It was obvious that there was a definite move to make whole-time men at the expense of the general practitioner, and it was evident that that was coming now. The resolution was in no way definite, and he would sooner have something specific.

The resolution was now put, and carried *nem. con.*

Mr. H. P. Standley now rose to say that, from the country practitioner's point of view, that was one of the most important matters that had been brought before the Association. Professor Wooldridge, unfortunately, was unable to be present that afternoon, but he had drafted out a resolution (which he had asked him to move on his behalf) which was in the following terms:

"That the National Veterinary Medical Association view with alarm the serious effect on the veterinary service to the country if the rural districts become depleted of an adequate supply of practitioners, as will be inevitable if a substantial portion of their earnings are taken away by the appointment of a large number of whole-time Veterinary Inspectors."

If, concluded Mr. Standley, they got those whole-time men in the country districts, it would absolutely wipe out the small practitioner. It was a very serious matter.

Mr. J. Willett seconded, and the resolution was supported by Mr. Male, who suggested that it should be forwarded to the Ministry of Agriculture and the Ministry of Health.

Mr. Standley took the opportunity of explaining that, when those who supported the motions had referred to whole-time inspectors, they had no fault to find with the inspectors of the Ministry, but with those who were depriving practitioners, as part-time inspectors, of their duties under the Milk and Dairies Order.

Mr. H. Steele Bodger observed that while Mr. Hall Masheter's reference to the position of the part-time inspector as being deplorable, in consequence of the intrusion of the whole-time man, was doubtless justified, it must not be forgotten that the position of the private practitioner without any part-time appointment was yet more deplorable. He would like that fact impressed upon the Parliamentary Committee when they were considering the matter, their special attention to be drawn to the paragraph in Mr. Hall Masheter's letter in which he recommended that all country practitioners should be constituted part-time inspectors.

The second resolution was also carried, with instruction that it, too, be laid before the Parliamentary Committee.

MEMBERSHIP OF THE ASSOCIATION

The Secretary reported the number of members of the Association at March 31st, 1933, to be 1,599.

The Secretary read the Obituary List, Council standing in tribute the while.

Resignations.—The following resignations were placed before the meeting: Messrs. J. Bishop (Perth), T. Bone (Demerara), F. W. Cox (Derby), E. P. Evans (Cardiff), M. J. McClancy (Dublin), J. C. Taylor (Beccles) and W. Taylor (India).

These resignations were accepted, with regret.

New Members.—The following new members were elected, on the proposition of Mr. J. Willett, seconded by Dr. Whitehouse: W. C. Auld (Wincanton), Hugh Bain (Wooler), L. E. W. Bevan (London), J. Birtwistle (Haslingden), J. S. Blair (Tunbridge Wells), F. Booth (Old Colwyn), J. M. Buchanan (Stowmarket), C. R. Chadwick (Baghdad), F. Crossley (Wellington, New Zealand), H. J. Edwards (Kingston-on-Thames), A. C. Ford (Linlithgow), Alex Gibson (Haddington), Ian A.

Graham (Berwick-on-Tweed), Miss K. Hernaman-Johnson (Sutton), Miss J. Kinnear (Dorchester), H. J. Loveless (Clacton), G. MacDonald (Lower Cabrach), G. A. Moore (Ministry of Agriculture), Miss Betty Murray (Southsea), Miss L. R. Robinson (Chelmsford), J. R. Stratford (Edinburgh), G. Wacher (Ashford) and C. E. Woodrow (Chiswick).

Reports of Committees

Organising Committee.

The following report of this Committee was read by Captain J. R. Rider (Chairman), who moved its reception and (there being no discussion) its adoption:—

A meeting of the Organising Committee was held at the Offices of the Association on Monday, April 3rd, 1933, with Captain J. R. Rider in the chair.

The minutes of the previous meeting were read and signed as correct.

Arising from the minutes, the Chairman informed the Committee that as there had not been forthcoming any further documentary evidence relating to the matter on which it had been proposed to ask the B.M.A. to receive a deputation, no further action had been taken. It was agreed that the available evidence was not strong enough to justify further steps being taken at present, but should there occur any material change in the situation the position should be reviewed.

The Secretary intimated that two cases of advertising by unqualified persons had been brought to notice during the past quarter, and that counter-advertisements had therefore been inserted in the press circulating in the districts concerned.

Free Treatment of Animals of the Poor

(*a*) A letter was read from the North of Scotland Division indicating the position within the area of that Division.

(*b*) Careful and prolonged consideration was given to the position existing in an Eastern Counties town. It was agreed that a representative of the Committee should explore the situation with the practitioners concerned and report direct to the President on the matter.

Consideration was given to an inquiry from the R.S.P.C.A. as to whether it would be possible to arrange a uniform fee for services rendered by members of the profession in connection with street accidents. After discussion, it was left to the President to ask if the Society would agree to a flat rate of 5s. per call to injured small animals, other than in exceptional cases.

The Committee decided to recommend that the Editorial Committee be requested to form a panel of members willing to supply, as and when required, articles suitable for publication in juvenile papers.

Mr. Rees seconded the motion for the reception and adoption of the report, and it was carried unanimously.

Appointments Committee.

The report of this Committee was read by Professor Buxton (Chairman), who moved its reception. The report was as follows:—

A meeting of the Appointments Committee was held at 2, Verulam Buildings, on Tuesday, April 4th, 1933, with Professor J. B. Buxton in the chair.

The minutes of the previous meeting, having been published in the *Veterinary Record*, were taken as read and signed.

A letter was received from the Colonial Office relative to the Association's request for information as to a report that a certain junior member of the Colonial Veterinary Service, who had undergone special training before receiving appointment, had recently been discharged. It was understood from this letter that the Colonial Office had been informed that the notice of retrenchment which had been given to this officer had been withdrawn.

The meeting was informed that, with the approval of the Chairman, a copy of the Association's scale of minimum salaries had been sent to the Pembrokeshire County Council, who were considering the question of appointing a whole-time Veterinary Officer. The Committee confirmed the action taken.

Correspondence was submitted which had been received from a member with regard to the salary and grading of his appointment, together with a letter which the Chairman of the Committee had authorised to be sent to the local authority concerned, in support of this member's application for further consideration of his case.

The Chairman's action was approved.

Consideration was given to a communication from the Yorkshire Division referring to the appointment of whole-time lay Meat Inspectors at new public abattoirs at Coventry and Liverpool, and requesting the N.V.M.A. to take steps to further the claims of veterinary surgeons for employment as Meat Inspectors.

The Committee expressed wholehearted approval of the principle laid down above and decided that no opportunity should be lost of pressing the claims of veterinary surgeons upon particular local authorities when vacancies occur.

The motion for the reception of the report was seconded by Dr. W. R. Wooldridge.

Discussion being invited, Major Kirk said that he assumed that the Association could do nothing for the young officer, mentioned in the report, who was discharged from the Colonial Veterinary Service.

The President: "We have done everything, Sir. The retrenchment threat has been withdrawn." (Hear, hear.)

Major D. S. Rabagliati said that, with regard to the communication from the Yorkshire V.M.A., he was unable to be present when that was discussed, but he knew that the feeling there was very strong concerning the ignoring of the profession in connection with the two appointments specifically mentioned, *viz.*, at Coventry and Liverpool. It was felt by the Division that protests should have been made by the N.V.M.A. to the Minister of Health and also to the Corporations of Coventry and Liverpool. He did not know whether the Division would be satisfied with that approval of the principle laid down and the assertion that in future the claims of veterinary surgeons to such appointments would be pressed. He thought no harm, at least, would have been done had that protest been forwarded, pointing out that the profession had been ignored.

Professor J. B. Buxton replied that representa-

tions had already been made to the Ministry of Health in connection with similar cases. The report of the Committee that was considering the whole matter was being awaited. The Committee gave very careful consideration to the cases specified in the report, and they felt that no good purpose would be served by requesting the dismissal of officers already appointed, but if the Association were warned before the appointment of such officers in future they could then take strenuous action.

The report was adopted, on the proposition of Professor Buxton, seconded by Dr. Wooldridge.

Veterinary Officers' and Public Health Committee.

The following report of this Committee was read by the Chairman of the Committee (Mr. Male) who moved its reception:—

There have been four meetings of the Veterinary Officers' and Public Health Committee during the past quarter, under the Chairmanship of Mr. G. P. Male.

The Committee has devoted much time and consideration to the matters embraced in the terms of reference of the Committee on Cattle Diseases appointed by the Economic Advisory Council. A memorandum setting forth the views of the Association thereon has been prepared and is now submitted for the approval of the Council.

Correspondence has taken place with the Scottish Branch, whose views have also been requested, and it is understood that the Branch have decided to draw up a separate memorandum and to forward this direct to the Economic Advisory Council.

The Committee's attention has been directed to a letter, reproduced in the *Meat Trades' Journal* of March 9th, which the Livestock Traders' Association of Great Britain have addressed to the Ministry of Agriculture. This letter stated *inter alia*, "that the Livestock Traders' Association was of opinion that the majority of veterinary inspectors employed by local authorities are not trained for and capable of dealing with notifiable diseases, such as foot-and-mouth disease and swine fever, and the Ministry were urged to appoint, or compel to be appointed under them, a staff of inspectors who would have complete authority and ability to handle all scheduled diseases, so that the whole country would be treated alike."

It is therefore recommended that the following communication should be addressed to the Livestock Traders' Association:—

The Secretary,
Livestock Traders' Association of Great Britain,
12, Charterhouse Square,
E.C.1.

Dear Sir,

In the report of the Annual Meeting of your Association, published in the *Meat Trades' Journal* of March 9th, there appears a copy of a letter which your Association has sent to the Ministry of Agriculture, criticising the manner in which veterinary inspectors of local authorities perform their duties.

I am therefore directed by the Council of my Association to draw your attention to the following facts relative to those criticisms.

The Diseases of Animals Acts impose on the Ministry of Agriculture, as the central authority, the obligation to devise and put into operation measures for the control and eradication of certain contagious diseases of animals, and, with certain exceptions, the Diseases of Animals Acts require local authorities and the police to execute and enforce the provisions of the Acts and of the Orders of the Minister of Agriculture made thereunder.

All local authorities are required to appoint veterinary (and other) inspectors to carry out the duties thus imposed upon them, and in the case of foot-and-mouth disease, precautionary measures are *obligatory* whenever a local veterinary inspector *has reasonable grounds to suspect* the existence of the disease. In such cases, the inspector *must* sign a declaration which puts into operation a standstill order prohibiting all movement of animals within a radius of five miles of a suspected case, pending the visit and diagnosis by an inspector of the Ministry of Agriculture. In some cases it happens that the disease is not sufficiently advanced for the Ministry inspector to be able to give an immediate definite opinion and the standstill order must be left in operation until a diagnosis can confidently be made. These precautionary measures, which were adopted on the recommendation of the Departmental Committee appointed in February, 1924, under the Chairmanship of the Right Hon. E. G. Pretyman, not only prevent the spread of the disease, but definitely are in the interests of livestock traders.

With regard to swine fever, the diagnosis of that disease is controlled entirely by the Ministry of Agriculture. Outbreaks of swine fever are confirmed at the Ministry's Veterinary Laboratory by examination of the lesions in the viscera which *have* to be forwarded by the inspector, whether a local inspector or an inspector of the Ministry makes the examination. In consequence, the restrictions imposed in reported cases are not controlled by the veterinary inspector who reports on a suspected outbreak.

It should be realised that the differential diagnosis of any disease is at times a most difficult problem, and often entails more than one visit and inquiry even by the most competent and experienced veterinary surgeon.

As to the remarks regarding the qualifications of veterinary inspectors of local authorities, it need scarcely be added that their training is such as especially to qualify them for these duties.

In conclusion, I am to say that my Association takes great exception to the allegations made by your Association in its letter to the Ministry of Agriculture, which, in the opinion of this Association, do an injustice to, and cast a very serious reflection on veterinary surgeons employed by local authorities in connection with scheduled diseases. With a better knowledge of the rules of procedure under the Diseases of Animals Acts, the National Veterinary Medical Association trusts that your Association will take the first opportunity to withdraw its criticisms and to give due publicity to this letter.

Yours faithfully,

F. Knight,
General Secretary.

The President observed that, as the Council would note, that report included the suggested memorandum to be submitted to the Committee on Contagious Diseases appointed by the Economic Advisory Council. Mr. Male was, he thought, perhaps a little reticent on the subject of that memorandum, but might he (the President) say from personal knowledge, that a great many hours of thought and care had been bestowed upon it and it was, he thought, a fairly concise memorandum expressing the general opinion of the profession.

All members of Council had copies, therefore he did not propose to have that long document read out, and, while he did not wish to burke discussion, he trusted it would not be found necessary to take exception to small details.

That memorandum was open for discussion, as also was the letter it was proposed to send to the Livestock Traders' Association.

Sir John Moore said that, as a member of the Cattle Diseases Committee of the Economic Advisory Council, he would like to say that that memorandum would prove very useful to them in their deliberations with regard to animal disease. He was very strongly of opinion that when that Committee met to discuss it, a member of the Association should appear before it to elaborate any points in connection therewith, and he would suggest that the Chairman of the Veterinary Officers' and Public Health Committee should be present for that purpose: Mr. Male would be eminently suitable for the purpose of giving further evidence on the points raised in the memorandum.

Might he add that already the Cattle Diseases Committee had had very excellent evidence from members of the profession.

After further discussion, the report was adopted, on the motion of Mr. Male, seconded by Mr. Standley, and the former, as Chairman of the Committee, referred to the valuable service rendered the Committee by the Secretary of the Association in connection with the memorandum.

It was agreed that, in the event of representatives of the Association being invited by the Cattle Diseases Committee of the Economic Advisory Council to attend for the purpose of amplifying the memorandum, the President and the Chairman of the Veterinary Officers' and Public Health Committee should act on the Association's behalf.

Parliamentary Committee.

The following report was read by the Secretary, in the absence of Captain J. C. Coleman (Chairman):—

A meeting of the Parliamentary Committee was held at 2, Verulam Buildings, on Tuesday, April 4th, 1933, when the President occupied the chair, in the absence of Captain J. C. Coleman through indisposition.

The minutes of the previous meeting were read and signed as correct.

Arising from the minutes, a letter was read from Sir Robert Gower, M.P., re-affirming his promise to move the amendments recommended by the Association, in the event of the Coal Mines (Protection of Animals) Bill reaching the Committee stage.

Also arising, the following letter was received from the Ministry of Agriculture:—

Ref. T.L.16449.

January 23rd, 1933.

Sir,

I am directed to refer to the recommendation made in your letter of the 4th instant that all applications for licences under the Improvement of Livestock (Licensing of Bulls) Act, 1931, should be accompanied by certificates of health granted by veterinary surgeons, and I am to explain, for the information of your Association, that the main purpose of the Act is to eliminate young bulls that are of defective or inferior conformation; and, on the information before the Ministry in regard to the working of similar Acts, which have been in operation in Northern Ireland and the Irish Free State for ten and seven years respectively, the number of young bulls which have been examined and found to be affected with disease is negligible.

While the Ministry appreciates the reason for the recommendation of your Association that every application for a licence should be accompanied by a certificate of health granted by a veterinary surgeon, it is not prepared to give effect to the proposal, as the adoption of it would impose a charge on owners of bulls for which there is not, in the opinion of the Ministry, sufficient justification.

I am, Sir,
Your obedient servant,
(Signed) E. B. Shine.

The General Secretary,
National Veterinary Medical Association
of Great Britain and Ireland.

The Secretary informed the Committee that, having been approached by the Royal College of Veterinary Surgeons on the matter, the Finance Committee had made arrangements with that body for the joint employment of an agent to watch Parliamentary Bills on behalf of the profession.

In connection with the Report of the Milk Reorganisation Commission, it was resolved to recommend that the Royal College of Veterinary Surgeons be approached with a view to the appointment of a Joint Committee of the Parliamentary Committee of that body and the Parliamentary Committee of the N.V.M.A. for the purpose of considering this report and, if thought desirable, of making representations to the proper quarter.

A letter was read from Mr. G. W. Searles, of Alresford, relative to the Report of the Milk Reorganisation Commission, expressing the opinion that the N.V.M.A. should ascertain the views of its members as to the best method of veterinary inspection for carrying out the Commission's proposals.

After discussion, it was agreed that a copy of the Report should be sent to each Division and that they be asked to consider it and to furnish the Association not later than June 25th with their

views on the following points, together with any further suggestions they may have to make:—

(i) The best method of carrying out the veterinary inspection of dairy herds as proposed by the Commission.

(ii) By whom such inspections should be made.

(iii) How many times per year herds should be inspected.

The President moved the reception of the report, and Mr. McIntosh seconded.

Dr. Share-Jones enquired who constituted the Committee appointed to judge those bulls—the Committee from which veterinary surgeons had been excluded.

The President replied that there was no Committee: certain lay persons were appointed by the Ministry of Agriculture to judge as to the suitability of conformation of the animals in question.

Dr. Share-Jones said that the profession were too often excluded from matters, such as this, which lay strictly within their province. He ventured to say that if a similar problem arose in connection with human beings—(laughter)—a doctor would be asked to adjudicate as to conformation, which was a matter of anatomy and physiology.

The President: "In other words, it should be run on the same lines as the licensing of stallions, in which the veterinary surgeon gives his opinion on the conformation of the animal."

Dr. Share-Jones said that that was exactly the position. He thought that was a matter which might go to a sub-committee for consideration, because it was one which had relation to a large number of similar problems which were being dealt with now.

The President commented that all would agree with Dr. Share-Jones that the veterinary surgeon was the right man to do that work, but the fact remained that the present position was now established by Act of Parliament.

It was eventually agreed that the Parliamentary Committee should go further into the matter, with the object of putting before the Ministry the claims of veterinary surgeons for appointments as inspectors under the Licensing of Bulls Act.

The motion for the adoption of the report was seconded by Mr. Male and carried unanimously.

Finance and General Purposes Committee.

The report was read by the Secretary, as follows:—

A meeting of the Finance and General Purposes Committee was held on February 15th, 1933, under the Chairmanship of the President.

Consideration was given to the proposals of the Legal and General Assurance Society, Ltd., for launching the Pension and Family Provision Scheme for members of the N.V.M.A. approved at the January meeting of Council. As a result, each member of the Association has been supplied with a copy and the scheme is being advertised in the *Veterinary Record.*

The sum of £1,500 has been invested as follows:—

£500 in Conversion Loan, 3 per cent., 1948/53.

£500 in Metropolitan Water 3 per cent., "E," 1953/73.

£500 in Essex County 3½ per cent., 1952/72.

The Scrip Certificate in connection with the Essex County Stock has been sealed and signed on behalf of the Association and it is desired to obtain the Council's approval of this action.

Payment has been made of the annual subscription of £10 to the Victoria Veterinary Benevolent Fund, and the previous subscription of £5 5s. to the National Horse Association of Great Britain has been continued.

The policy of insurance against libel actions has been renewed.

It was agreed to share with the Royal College of Veterinary Surgeons the annual charge of £10 10s. for employing agents to watch Parliamentary Bills on behalf of the profession.

The finances of the Association during the quarter will be dealt with by the Hon. Treasurer in his report.

The Hon. Treasurer reported that on December 1st, 1932, the Association had a bank balance of £399 11s. 5d., and that in the three months following £3,322 13s. 11d. had been received from all sources. Various items to the total of £1,420 18s. 11d. had been paid, leaving a final bank balance of £2,301 6s. 5d.

The President, as Chairman of the Committee, moved the reception of the report of the Committee and of the Hon. Treasurer's report. Dr. Wooldridge seconded.

Mr. G. H. Locke reminded the Council that the National Veterinary Benevolent and Mutual Defence Society possessed a benevolent as well as a defence branch, and appealed for similar treatment, in regard to an annual subscription, as was accorded by the Association to the Victoria Veterinary Benevolent Fund.

The President assured Mr. Locke that his observations would be borne in mind at the next meeting of the Finance Committee.

The report was then adopted.

Editorial Committee.

Sir John Moore (Chairman) read and moved the reception of the following report:—

During the past quarter, the Editorial Committee has been engaged in the consideration of a number of important matters, several of which it has been decided to refer to Council.

At its meeting on January 23rd the view was expressed that an editorial should shortly be published on the subject of "Methods of Small-animal Euthanasia," in view of the correspondence in this connection published in the lay press.

For the purpose of securing data for the preparation of this article it was decided to issue to a large number of canine practitioners and professors at the colleges, whose names were selected by the Committee, a letter and questionnaire inviting an expression of their views on the various methods of euthanasia.

Subsequently a small Sub-committee was appointed to consider the replies received and report to the Committee.

On March 20th the Committee received and

adopted the report of this Sub-committee. It was then resolved that the report be included in the report of the Committee to Council. This report reads as follows:—

Sub-committee on Small-animal Euthanasia

Report to Editorial Committee

This Sub-committee was appointed by the Editorial Committee at its meeting on February 6th, 1933, and was composed as follows: Major G. W. Dunkin (Chairman), Major H. Kirk, Professor J. Macqueen, Professor G. H. Wooldridge and Professor J. G. Wright.

The terms of reference were:—

"To consider and report upon the replies received to the Editorial Committee's questionnaire regarding methods of small-animal euthanasia, which had been issued to approximately 100 practitioners."

Two meetings of the Sub-committee have been held, namely, on March 6th and March 13th, 1933.

At the former meeting the Chairman presented a schedule of the 52 replies which had been received. These showed that the different methods specified in the questionnaire were supported as follows:—

Prussic acid (oral and intrathoracic)	25
Chloroform (inhalation, nasal injection, or intracardiac injection) ...	31
Coal gas	15
Carbon monoxide (exhaust fumes from motor cars)	2
Shooting	33
Other methods	22

As a result of their deliberations, and in view of the wide divergence of opinion expressed, the Sub-committee make the following recommendations:—

(i) That the Editorial Committee be asked to recommend to the Council of the Association that a Committee of Experts be appointed to study the question, who should report to the Council when they have completed their observations, or submit a progress report before that stage is reached, if thought desirable.

(ii) That the following gentlemen be invited to serve on the proposed committee:—

Professor J. F. Craig and Professor J. J. O'Connor ... ... Ireland.
Mr. C. W. Elam and Major R. Isherwood ... ... Liverpool.
Professor W. Robb and Captain G. W. Weir ... ... Glasgow.
Professor W. M. Mitchell and Professor G. F. Boddie ... Edinburgh.
Professor G. H. Wooldridge and Professor J. G. Wright ... London.

(iii) That Major G. W. Dunkin be invited to act as Chairman.

(iv) Terms of reference:—

(*a*) That the Committee be requested to *explore in all its bearings* the subject of small-animal euthanasia, *i.e.*, of dogs, cats and birds, with a view to arriving at an authoritative opinion as to which is the most efficacious method of humanely destroying these animals.

(*b*) That the Committee be asked to express their opinion upon the following methods at present in use—in addition to other methods which the Committee might feel disposed to test—with particular regard to the question whether one or more of them can be described as "cruel" or "painful":—

(1) Hydrocyanic acid—oral, intrathoracic, intracardiac, intravenous.

(2) Chloroform — inhalation, nasal injection, intrathoracic, intracardiac, intravenous.

Prenarcotisation with morphine, chloral hydrate, chloretone, nembutal, avertin.

(3) Intravenous and intracardiac injection—magnesium salts, strychnine, or other agents.

(4) Lethal chambers — chloroform, coal gas, carbon monoxide, motor car exhaust fumes.

(5) Shooting, including captive bolt pistols.

(6) Electric shock.

(7) Any method that might be recommended for destruction *en masse*.

(*c*) That it should be left to the Committee to decide if their observations should be applied to apparently healthy animals and/or to aged, diseased or unhealthy animals.

The object which the Sub-committee have in mind in recommending the formation of this Committee of Experts is that the profession should be in a position to express an authoritative opinion on this subject, and in view of the activities of certain lay bodies it would seem to be all-important that the veterinary profession should be the authority and no one else.

The Editorial Representative having laid before the Committee, in accordance with practice, the notes submitted by candidates in connection with the competition under the Clinical Prize Scheme for Students for selection with a view to publication in the *Veterinary Record*, the following resolution was passed for submission to the Council:—

"That the Editorial Committee decides not to publish in the *Veterinary Record* cases submitted for award under the Clinical Prize Scheme for Students, and further recommends to the Council that that body should reconsider the advisability of continuing the scheme."

Arising out of correspondence approved for publication on the subject of the addresses given to the Canterbury Farmers' Club by Messrs. McEwen and Roberts on "What the Veterinary Adviser can do for the Farmer," it was resolved as follows:—

"That the attention of the Council be drawn to this correspondence and that this Committee requests that they should investigate the whole situation arising therefrom."

The Committee has decided that as a list of Veterinary Societies will no longer be published in the Register of Veterinary Surgeons, such a list should be included in the Association's Congress Handbook, and that all Colonial Veterinary Societies not at present affiliated to the N.V.M.A. should be invited to become so, thereby securing the insertion therein of the name of their Society (with officer-bearers).

As it was understood that the foregoing decision of the Royal College would mean that no reference to the N.V.M.A. would now appear in the Register of Veterinary Surgeons, it was decided to recommend to the Council that an advertisement concerning the Association should be inserted in the Register.

XUM

The final matter which it is desired to bring before the Council concerns the terms of the following advertisement [given in the report] and this is laid before the Council with a view to negotiations being opened with the High Commissioner for Southern Rhodesia, it being felt that the terms and conditions of these appointments call for consideration.

Arising out of the foregoing, it was resolved that in future no advertisement for public appointments, other than those which conform to the Association's scale for whole-time veterinary officers, be inserted in the *Veterinary Record* without the authority of the Editorial Committee.

With a view to improving the supply of clinical material, the important step has been taken of requesting the Divisions to appoint Divisional Representatives of the *Veterinary Record*. The proposal has met with ready acceptance and a very large number of letters appealing for contributions has been sent to the gentlemen appointed, for distribution amongst their members.

The motion for the reception of the report having been seconded by Major Kirk,

The President commented that the Editorial Committee had evidently been very busily occupied during the past quarter, and there was much in their report requiring the consideration of the Council.

Veterinary Advisory Officers

Mr. McIntosh said that, arising out of that report, there was one very important item which, he thought, demanded more than passing notice. He referred to that relating to veterinary advisory officers.

The Council would recall that, some two years ago, complaints were frequent and many regarding the activities of these officers, and so acute had the position become, at that time, that the Association was compelled to make representations to the Ministry of Agriculture with a view to limiting the activities of these gentlemen and if possible to bring about a spirit of harmony and co-operation between this branch of service and the general practitioner.

He believed that a genuine attempt had been made by the Ministry to limit and control the activities of these officers so as to avoid conflict with the interests of general practice.

Unfortunately, however, these results, which they had all hoped for, had not apparently been attained and it would seem now, from the addresses delivered before the East Kent Chamber of Agriculture, that there is to be a possible extension of these activities under the guise of animal health or animal husbandry, whatever that might mean. He (Mr. McIntosh) was convinced that no individual or group of individuals, however competent, could be allowed to displace that most essential individual—the general practitioner.

He was not in conflict with the efforts of research or institutional investigations when properly directed and controlled, but the stock owner must look primarily to the practitioner for that measure of protection and advice which always has been and should always remain his first line of defence.

Any form of auxiliary help should be through him or with him.

From the evidence before them, and in the light of the experience of the past two years, he thought the time opportune to review the whole situation again, and he would propose that a committee be appointed for that purpose.

Mr. Male strongly supported Mr. McIntosh's observations and his proposal that the question of veterinary advisory officers should, in the light of the evidence given as to their increasing encroachments upon the field of private practice, be re-opened with the Ministry of Agriculture.

As one of the deputation that waited upon the Ministry from the Association, he could say that the whole matter was then discussed very fully, and it was pointed out to the Ministry what the result of that Veterinary Advisory Officer Service would, in all likelihood be. Things had fallen out just as they anticipated. A very strong endeavour was made to secure a revision of the duties of those officers: certain points were revised, but others, which seemed, to them at any rate, to be most essential, were not agreed to. The Ministry did say, however, that they would be pleased to meet representatives of the veterinary profession if that scheme did not work. From what they had heard, and from what he had himself experienced, it was quite evident that the scheme was not working in the way that it should be, and he thought that now was the time to approach the Ministry again, point out those facts, and see whether either the rules and regulations governing the scheme could be amended, or those posts be abolished altogether. (Applause.)

Following a statement by Sir John Moore "in committee,"

Dr. Share-Jones observed that he had been opposed to the principle of that scheme from the very outset, by virtue of the fact that it was supposed to be a scheme to meet the difficulties that were deemed to be peculiar to outlying parts of the country, such as Wales, yet—and this they should always bear in mind—it was formulated and put into operation against the advice of the professional advisers of the profession at the Ministry. In his view, if any deputation were sent, in approaching the Ministry they should deal with those who represented their profession and their interests there.

He supported what Mr. McIntosh had said. The whole problem was a very serious one: if the general practitioner went, they might as well close down as a profession.

After further discussion, the relative paragraph in this Committee's report was amended to read: "That the attention of the Council be drawn to this correspondence and that they should elect

a committee to investigate the whole situation arising therefrom." It was further agreed that the committee should consist of the personnel of that which originally functioned in connection with the Advisory Officer Scheme, and that it be an instruction to the committee to co-opt "other members of the Association engaged in general practice who probably are affected by the activities of veterinary advisory officers."

The President now pointed out that the report recommended to the Council that it should reconsider the advisability of continuing the Clinical Prize Scheme for Students.

Mr. Male, speaking as one of the examiners under the scheme, as he had been for several years, expressed his great regret at the suggestion that the scheme should cease to operate. He thought he might say that the essays submitted for award under the 1932 competition were of a higher standard than had ever been presented before, and it did seem to him a great pity to discontinue the scheme. It was surely not a question of saving a few pounds; if it did encourage students to make careful clinical observations and record them, it was, he thought, a very good thing.

He noticed in the report some mention of a decision not to publish students' clinical contributions under this scheme in the *Record*. In regard to that, he had always thought that the endeavour of the Editorial Committee was to get as many clinical articles as possible, and some of those, in his own opinion, were really well worth publishing.

After further discussion, it was decided to request the Organising Committee to reconsider the advisability of continuing the scheme.

It having been decided to remit to the Appointments Committee the matter of advertisements for appointments in Southern Rhodesia, received for insertion in the Association's journal,

Sir John Moore moved the adoption of the report, as amended.

Professor J. Macqueen said that, before that motion was put, there was one question that ought to be answered in connection with the proposed investigation of enthanasia, and that was the question of finance. Had they any idea as to what amount was likely to be required?

The President replied that he thought that question could best be answered by the committee who were dealing with the matter: they would probably budget for a certain amount and ask the Finance Committee for that sum.

Major G. W. Dunkin: "Does not the proposal go forward that the expenses incurred in this investigation be met by the 'National'? It is in the recommendations of the Sub-committee, if it is not in this report."

The President: "This has not been mentioned in the report and I think it should come from the committee as an application."

The motion for the adoption of the report was duly seconded, and carried.

Provisional Committee.

This report was read by the Secretary, as follows:—

A meeting of the Provisional Committee was held at Chester on February 7th, with the President in the chair.

The provisional programme of the Congress has been published in the *Veterinary Record*, together with a list of hotels and boarding houses, and the rules governing the competition for the Victoria Veterinary Benevolent Fund Golf Trophy.

As last year, invitations to send representatives to the Congress have been issued to local authorities and Government Departments.

In addition, the arrangements for the Exhibition of Surgical Instruments, Drugs, etc., have been communicated to likely exhibitors.

The social programme is receiving attention and the Committee will meet again at an early date to go further into this matter.

The President moved the reception and adoption of the report, and the motion was seconded and carried.

SHOULD JOHNE'S DISEASE BE MADE NOTIFIABLE?

The next business before Council was to receive the views of Divisions with regard to the resolution submitted by the Midland Counties Division in September, 1931, as to the advisability of Johne's disease being made notifiable.

The Secretary submitted a summary of the replies received, which showed that five Divisions were of opinion that Johne's disease should be made notifiable, six that the time was not opportune, and five that it would not be practicable to schedule the disease.

It was decided that no further action be taken.

Nominations for Election as Honorary Members

The President said that item 7 on the agenda was "To receive nominations for election as honorary members." As they knew, previous to that year, by their articles of association, no member of the N.V.M.A. was eligible to be honoured by the conferment upon him of honorary membership; no matter how much good work he had done for the Association, for the profession, and for the matter of that, for his country. That obstacle had now been removed, and he did think it was time that the roll of Honorary Members of the Association should contain the names of some of those who had rendered sterling service, not waiting until they had finished their good deeds and passed away before they honoured them. (Hear, hear.)

He had two names to bring before them on that occasion, asking for their acceptance, when they would be brought forward at the Annual General Meeting, when their election would take place. First of all he was going to ask that the Association confer that honour on Professor

James Basil Buxton. (Loud applause.) Memories were short, but some of them remembered what work Professor Buxton had performed for the "National" in the old days at Buckingham Palace Road, when it was absolutely "touch and go" whether the *Veterinary Record* would appear or not, and when the "balance at bank" was conspicuous by its absence. In fact, in those times if they had not had a man of Professor Buxton's ability, energy, and geniality—and might he say generosity—(hear, hear)—the Association would not now be in existence. (Applause.)

For these reasons alone—there were, of course, many others, including pre-eminently his services to veterinary science—he thought Professor Buxton well worthy of the honour they proposed to confer upon him. He was now also the honoured President of the Royal College of Veterinary Surgeons—(applause)—but he (the speaker) need not go further into the qualifications which rendered Professor Buxton so eminently deserving a recipient of the honour which they proposed to confer upon him at Llandudno.

The other name was that of another gentleman who had done great work for the Association—Dr. O. Charnock Bradley. (Loud applause.)

Dr. Bradley's name was known and honoured throughout the profession, and during his long and close association with the "National" he had been President three or four times. He carried the burden of it during the War period and was very largely instrumental in the reorganisation of the Association and in the drawing up of the old articles of association which formed the basis of the prosperity of the Association as they knew it to-day. (Applause.)

He now put those nominations to them, confident in the knowledge that they would be accepted with the Council's warmest approval. (Loud applause.)

Mr. McIntosh asked to be allowed to associate himself with all that had been said by the President. He was associated with Dr. Bradley during the period of reorganisation, and those of them who were so associated with him knew the great amount of time and energy that he gave to the interests of the Association. For that reason alone he was worthy of the honour it was proposed to bestow upon him—there were many other reasons, of course, but those need not be mentioned.

Professor Buxton was one of the pillars of that Association, and he had much pleasure in supporting all that the President had said in regard to those two gentlemen. (Applause.)

Professor J. B. Buxton, in acknowledgment, said that they would not expect him, on an occasion such as that, to express adequately his thanks for the honour they had done him in nominating him for that distinction. They knew that what he had done for the Association in the past had really been good fun—(laughter)—and when they remembered those who, during the past few moments, had claimed colleagueship with him in those days—and in that he included Professor Wooldridge—they would realise that they really had not too bad a time at Buckingham Palace Road. (Hear, hear.)

He desired to thank them very much indeed for the great honour they proposed to confer upon him.

RESOLUTION FROM DIVISION

From the Central Division.

"That in cases of alleged cruelty a veterinary surgeon should be called to examine the animal before the person concerned is charged."

After brief discussion and on the advice of the Solicitor, this resolution was referred back to the Division, with the request that it should be re-presented in a more specific form.

Distemper Immunisation.—The Council resolved itself into Committee "to consider certain aspects of the business side of distemper immunisation."

Upon the resumption of open meeting, it was agreed that a letter on the subject should be addressed to each member of the Council.

Next Meeting.—Mr. J. O. Powley, on behalf of Captain J. R. Rider, proposed that the July meeting of Council be held at Newcastle-on-Tyne.

The proposition was seconded by Major Rabagliati.

As an amendment, Mr. H. Steele Bodger proposed York as the place of next meeting.

Major G. W. Dunkin seconded the amendment which, on being put to the meeting, was carried by a large majority.

The meeting concluded with the passing of a hearty vote of thanks to the President for his conduct of the proceedings.

"THE CATTLELAND"

Reuter's Johannesburg Correspondent reports that two animals of a new species, hybrids between an eland bull and Friesland cow, are on show at the Pretoria Zoo. They are called "Cattlelands," and it is hoped that they will possess something of the immunity of the eland (a heavily built type of antelope) to certain cattle diseases.

This experiment in breeding has been carried out on a farm in Griqualand West. The colour of the hybrid is red—a fact of great scientific interest, for black is the colour always perpetuated in cattle crosses.

* * * * *

Synovial fluid is a secretory product and not an extravasation or exudation from blood vessels. Synovia contains mucin, which is a secretion of cells in the synovial membrane. The mucin is an important constituent of synovial fluid, acting as a lubricant. Motion of the joint stimulates mucin production. Inflammation disturbs the balance of mucin in the synovial fluid as well as other ingredients.—*Bio. Abst.*

N.V.M.A. Divisional Reports

ROYAL COUNTIES V.M.A.*

ANNUAL MEETING AT READING

Influenza in the human subject and foot-and-mouth disease outbreaks amongst cattle were the two main causes of a very depleted attendance at the Annual General Meeting of the Royal Counties Veterinary Medical Association, which was held at the George Hotel, Reading, on January 27th, 1933.

The President, Captain H. B. Collet, was in the chair and the following gentlemen were present: Messrs. J. H. L. Addis, N. S. Barron, H. Bell, J. Bell, Captain R. E. C. Bullen, Mr. T. A. R. Chipperfield, Captain J. A. Craft, Major J. J. Dunlop, Lieut.-Colonel H. Greenfield, Mr. E. J. Heather, Captain J. R. Hewer, Mr. G. P. Male, Major W. H. Kirk, Captain W. L. Little, Major F. J. Taylor, Colonel G. K. Walker and Mr. F. W. Willett.

The Secretary read the minutes of the previous meeting, which had not yet been published in the *Record*.

The second item on the agenda stated that the President would read the suggested alterations in the rules of the association, which a sub-committee had been appointed to revise and expand.

The President informed the meeting that this matter had been discussed in Council and that it had been decided that a copy of the old rules, with the suggested alterations and additions, would be circulated to every member of the Division with a request for any suggestions or alterations. The sub-committee could then meet to consider the views expressed by the members and finally a revised set of rules would be placed before a future meeting.

The Secretary read apologies for absence from the following members: Captain A. Barr, Messrs. A. J. Baxter, J. R. Baxter, Professor J. B. Buxton, Mr. W. J. Carless, Captain J. C. Coleman, Mr. C. H. Ducksbury, Major G. W. Dunkin, Captain W. G. Green, Captain T. M. C. Hunt, Messrs. W. S. King, T. W. Lepper, Major H. G. Lepper, Messrs. P. Lloyd, J. W. McIntosh, J. McKerlie, N. P. Male, Veterinary Lieut.-Colonel Rees-Mogg, Mr. H. C. Shingler, Major S. L. Slocock, Lieut.-Colonel P. J. Simpson, Mr. F. T. Trewin, Captain S. Villar, Major R. F. Wall, Messrs. E. Wilkinson, J. Willett, Captain E. C. Winter, Captain D. Wyllie and Sir Frederick Hobday.

The President alluded to the bereavement of Mr. John Carless, of Bicester, through the death of his wife and said that he was sure it would be the wish of the members that he should write and express their sympathy.

* Received for publication March 24th.

CORRESPONDENCE

(1) From the Editorial Representative of the N.V.M.A., expressing the hope of the Editorial Committee, N.V.M.A., that the Division would appoint a representative whose concern it would be to encourage members of the Division to report interesting cases encountered in the course of their practice, and also to collect and communicate to the *Record* any items of social news which might be of interest to the veterinary profession. The meeting elected the President, Captain H. B. Collet, as the Divisional Representative of the *Veterinary Record*.

(2) From the Secretary of the Victoria Veterinary Benevolent Fund acknowledging receipt of the amount contributed by the members, in the collecting box, for the year.

(3) From the National Horse Association, asking for a renewal of the Association's subscription. Mr. Male proposed that the annual subscription of one guinea be sent. This met with the approval of the meeting.

(4) From the Sanitary Institute, inviting the appointment of delegates from the Association to be present at the annual congress, which is to be held in Blackpool in the month of June. The meeting appointed Mr. N. S. Barron as the Association's delegate, and it was agreed, on the proposition of Colonel Walker, seconded by Major Taylor, that the Association should pay the delegate's expenses.

(5) The Secretary read a letter from Professor Sydney Pennington, of Reading University, asking that his resignation from the Association be accepted, on account of the fact that he was leaving the district. Mr. Male proposed that, in view of Professor Pennington's long term of membership of the Association, the Secretary be instructed to write to Professor Pennington, conveying the regrets of the members that they had to accept his resignation. Major Kirk proposed that Professor Pennington be elected an honorary associate, and it was decided that his name should appear on the agenda of the next meeting for election.

The President proposed that a letter be sent to Sir Frederick Hobday, who was an honorary associate of the Association, congratulating him on the honour recently conferred upon him by His Majesty the King, and this was unanimously agreed upon.

Reporting.—Major Taylor raised the question of the securing of adequate reports of the proceedings, following upon the withdrawal by the Association of the services of Mr. Brown, which he greatly regretted. A discussion arose, in the course of which Major Kirk, Captain Bullen, Captain J. R. Hewer and Colonel Walker spoke, each one stressing the need for a reporter competent to report the discussions and proceedings which took place at the Divisional meetings.

XIIM

Mr. Male proposed and Major Taylor seconded that the National Veterinary Medical Association be asked if they would allow one of the staff of the *Veterinary Record* who was an expert shorthand writer to report the proceedings of Divisional meetings whenever possible. This would be a great help to the Division and would ensure a correct report for the *Veterinary Record.* This resolution was carried.

Finance.—The Auditor's report and balance sheet was then presented.

The Hon. Treasurer (Captain Bullen) made an appeal for the payment of arrears of subscriptions, stating that there were a large number of subscriptions outstanding. Colonel Walker suggested that a note drawing attention to these arrears should in future be printed at the bottom of the balance sheet.

Nomination.—Mr. Chipperfield was nominated for membership by Captain Bullen, seconded by Mr. J. Craft.

SHOULD JOHNE'S DISEASE BE SCHEDULED?

The question "Should Johne's disease be amongst the scheduled diseases?" was discussed after the reading of a letter from the Midland Division urging that this action should be taken.

Mr. Male opened the discussion by stating that although Johne's disease was undoubtedly becoming more prevalent he did not see how it could be scheduled until there was some more correct or efficient test for diagnosis. Until they got a test of that sort, further research was required. Diarrhœa was due to a variety of causes other than Johne's disease—such as tuberculosis, intestinal parasites, coccidia and other conditions. He thought, however, that some step might be taken—perhaps one similar to that taken for contagious abortion might be adopted by the Ministry. There again, the difficulty was to prove from clinical evidence that it was a real case of Johne's disease.

Captain Bullen expressed hearty agreement with Mr. Male. Compulsory notification seemed to him absolutely impracticable until there was some means of definite diagnosis.

Major Taylor said he agreed with some of Mr. Male's remarks. They all realised the difficulties of diagnosis in young animals. The disease was becoming much more prevalent, and he thought that they would be taking a step forward in making it compulsory to report the advanced clinical cases. There was no doubt about the disease when it got to that stage and if it were made a scheduled disease it could be run in co-operation with the Tuberculosis Order and check, to some extent, the wholesale dissemination of the disease which was now going on by the contamination of pastures.

Major Kirk said that, although he was not a cattle practitioner, he wondered if it would not be possible to order all suspected cases to be segregated, to limit the spread of infection. When farmers were charged with not reporting tuberculosis they hid behind the excuse that they thought it was Johne's disease. If they had to report Johne's disease as well, they would no longer be able to use that excuse.

Major Taylor commented that on most farms one visited one found Johne's disease in some form or another and in animals eight to 12 months old in some cases. Compensation would mean a tremendous expenditure to the country, for 10 per cent. to 15 per cent. of animals were suffering from it in many districts.

Captain Hewer pointed out that owners of cattle would have to be compensated, and if the country could not afford to pay tuberculosis compensation how could it do so for Johne's disease?

Captain Craft said he was going to support the suggestion that the disease should be scheduled. He did not see how anyone could make a mistake in diagnosis when they had the microscope at hand and the diagnostic agent johnin, which had never yet let him down. They had mentioned expense: which was worse, to let the country pay a little for compensation now or let the disease spread more and more, to the loss of thousands of head of valuable stock and representing many thousands of pounds? Every year they got more cases; they knew the disease was rapidly increasing and many farmers were being ruined and herds decimated through the withholding of State aid. If they pushed for the scheme now it would be a very great boon to the pedigree breeders, especially of Jerseys and Guernseys, if the scheme were adopted. He knew of several Guernsey herds which were absolutely ruined by it. It was a mistake for the Veterinary Profession to keep quiet on this matter, and he was sure they would be doing the right thing by pressing for schedule now.

Colonel Walker observed that, as a profession, they had an educational duty to perform and they should voice their opinions to educate the public as well as those in authority. He could see no harm in bringing to notice the great desirability of dealing effectively with this important disease and he would support a properly-drafted resolution to the authorities drawing their attention to the danger of this disease. That kind of educational propaganda should come from the veterinary profession rather than from the agriculturist.

The President said that when a cow showed clinical symptoms it was usually approaching its end and the damage had by then been done to the herd.

Mr. Male proposed the following resolution: "That this meeting considers that it will not be practicable to schedule Johne's disease until there are more reliable tests, and recommends the National Veterinary Medical Association to take

steps to impress upon the Economic Advisory Council the increasing prevalence of the disease, and urges further research into its early diagnosis."

Colonel Walker seconded the resolution, which was carried.

MORBID SPECIMENS

Major F. J. Taylor exhibited the tuberculous liver and other organs of a fox terrier. [Major Taylor's account of this case is reproduced, with the ensuing discussion, in the Clinical Section of this issue.—Ed., *V.R.*]

Mr. Addis exhibited the hock of a cart horse showing a very profuse formation of new bone.

The interest of this case to him was that the mare had had what was apparently a typical attack of hæmoglobinuria followed by wasting of the muscles. About ten days after the onset of the attack she suddenly developed a painful condition of the off hock, causing great lameness. After prolonged treatment by the owner, the mare was examined and destroyed. *Post-mortem* examination showed the mare to be otherwise healthy. He wondered if it was possible for a toxæmia associated with, or the result of, the hæmoglobinuria, to become localised in the hock joint and thus start some inflammatory new growth.

Mr. Craft asked if there was anything that would prevent a recurrence of azoturia. If animals once got those attacks they recurred sooner or later. To what gland imbalance was it due? Many horses were well fed and not working and yet did not go down with azoturia. If they had some clear understanding of the cause of the condition he thought it probable that it might respond to some such injection as adrenalin or some other gland extract. He felt that at present they were on the wrong track. He had studied the cause and he had come to the conclusion that if they could get their scientific bodies to find what glands were at fault they might evolve a new theory.

The President said he had only seen one case of azoturia in the past ten years. Before the War, in Western Canada, it was a very common disease indeed. One saw it in the autumn and early winter months. Horses that had been well fed would have to stand in their stables for a couple of days during stormy weather. When they began work again, hauling wheat, cases of azoturia were frequent.

Captain Hewer said he did not think the mare's hock had got into that condition as a result of hæmoglobinuria. He would say it was a secondary infection. He had had several typical cases of hæmoglobinuria lately, but not with the classic history of a day or two's enforced rest, these horses being hunters, hunting a few days previously followed by regular exercise. He had two cases in one stable which came on after about half-an-hour's exercise. He found an injection of arecoline hydrobromide cleared the case up quickly. No change had been made in the feeding and no forage recently purchased, the horses being fed on meadow hay from the owner's own rick, and oats without beans.

Mr. Craft said he had a very fine specimen of the os pedis of a thoroughbred horse which Mr. Peter Thrale had asked him to exhibit. It was taken from a horse named "Second National" which, no doubt, some of the members had known. The horse fractured its foot at exercise and had a considerable period of rest. It was then put into training and actually raced until it started to go lame again and had to be destroyed. The animal always had a peculiar snatch in the limb after the accident. If they examined the specimen they would find a slight erosion around the articular surface of the pedal bone and they could also trace on the articular surface the mark of where the fracture had knitted together.

Mr. Heather said he had a case of a similar fracture six months ago. There was, as in this case, also a singular absence of new bony tissue and the fracture had healed with a minimum amount of callus. This animal never went sound after the accident occurred.

Next Meeting.—Following this exhibition of specimens, the question of fixing the place of the next meeting arose. The matter was left in the hands of the President.

Registration and Training of Canine Nurses.—The meeting then went into Committee over the matter of the registration and training of canine nurses.

The following resolution was moved in open meeting by Colonel Walker: "That this meeting of the R.C.V.M.A. approves in principle the scheme for the training and registration of canine nurses as outlined by the N.V.M.A." Mr. Heather seconded and the resolution was carried.

The President then briefly addressed the meeting, explaining that he had not prepared an inaugural address. He described the conditions obtaining until quite recently in the veterinary profession in Canada and showed what great advantages members of the profession in this country had over their Canadian cousins in the unity and protection afforded by the R.C.V.S.

Major Taylor thanked the President for his address and for taking the chair that afternoon, and Mr. H. Bell seconded the vote of thanks, which was carried.

. . . . .

THE ANNUAL DINNER

The Annual Dinner of the Association was held at the George Hotel in the evening, the chair being occupied by the President. In addition to the members, the following guests were present:

Mr. F. A. Burrows (Chief Constable of Reading), Mr. Craft, Mr. T. A. R. Chipperfield, Dr. A. T. R. Mattick, of the National Institute for Research in Dairying, Shinfield, and Professor J. G. Wright, of the Royal Veterinary College.

Following the loyal toast, Dr. A. T. R. Mattick proposed the toast of the Royal Counties Division of the National Veterinary Medical Association. He was there, he supposed, not so much because he was Dr. Mattick but because he was representing the National Institute for Research in Dairying. That Institute had always worked in the closest association with the veterinary profession and their relationships had been most happy. He was glad to think that between them they had made some impression on that most important matter, the milk supply of the country. When he started 14 years ago the amount of interest which the public and the medical profession took in the milk supply might truthfully have been said to have been practically nil. Now on all sides they saw evidence of an awakening to the fact that the milk supply was of the greatest possible interest to the farmer and people in all walks of life.

He had always regretted the way in which the Veterinary and Medical Professions had been regarded in official circles, but he might add that he was invited to give evidence before the Milk Reorganisation Commission and he might say that if the proposals made to that Commission should materialise there was a very happy day dawning for the Veterinary Profession, for there was no doubt that the Veterinary Profession would receive that recognition which it had merited long ago, and that it would take its proper place in the councils of the nation. (Cheers.)

In conclusion, Dr. Mattick wished the Association continued prosperity in its future deliberations.

The President, responding to the toast, mentioned that at the last Annual Dinner of the Aylesbury N.F.U., which he attended, Colonel Muirhead, representing an Oxfordshire constituency, spoke on what the Ministry of Agriculture had done for them, the farmers, and also on what it proposed to do. He also mentioned that the report of the Milk Reorganisation Commission would be out in a few days, and he (the speaker) was personally very curious to see what the proposals were. It was rather singular that Reading and Berkshire, which might be called the home of instruction in clean milk production, was behind-hand compared with Buckinghamshire, which had taken the teachings of Shinfield to heart. Some five years ago they had, in Bucks., instituted a scheme of examination of dairy cows. While the work of farm inspection was small—two a week—bulk sampling of milk was also carried out and when complaint had been received from outside in regard to the finding of tubercle bacilli, additional veterinary inspections of the farms concerned had been carried out. This had resulted in a number of cases of tuberculosis being discovered. It had also done good in that, when a farm had been infected, the news was usually passed on to the neighbours and had given them something to think about.

The President went on to describe the method of examination and added that when the inspection first started one quite often found a number of cases of chronic mastitis. At the present time it was rather exceptional to come across them.

Speaking of the Association, Captain Collet said that every young graduate ought to become a member of one of the Divisions of the "National." (Hear, hear.) It was not always easy to attend meetings and it was easier to get into a habit of not attending them. He thought that there was much to be gained from being a member of such an Assocation. It was not only the papers that were presented and discussed, but it was the opportunity of meeting one's fellow practitioner and talking "shop" with him that was so good. He personally had picked up many useful "tips" simply by discussing cases with members.

Colonel Walker gave the toast of "The Visitors" in a breezy speech.

Professor Wright, responding, thanked the Society for the honour it did him in coupling his name with the toast. He complimented the Society on having amongst its active members such prominent members of the profession as Professor J. B. Buxton (President of the R.C.V.S.), Mr. G. P. Male (the immediate Past-President), Colonel P. J. Simpson (President of the N.V.M.A.) and Sir Frederick Hobday (Principal of the Royal Veterinary College), to name only a few.

He felt sure that the honour recently conferred upon Sir Frederick would be welcomed by all—(applause)—for it reflected honour upon the profession.

The district comprising the Royal Counties was at present in the throes of an outbreak of foot-and-mouth disease. He believed that there was a number of the Veterinary Staff of the Ministry of Agriculture with them that evening, and he felt sure that he was expressing the feeling of the meeting when he wished them every success in their efforts, and trusting that the scourge would be quickly stamped out. (Hear, hear.) It was gratifying to notice that the lay press had refrained, in this instance, from publishing the scare headlines and paragraphs which had occurred on previous occasions.

Colonel Walker, in his delightful speech, had described so aptly the position of the after-dinner speaker, that he (Professor Wright) felt that he could not do better than to close by wishing the Society every success and hoping that its future would be as illustrious as had been its past. (Cheers.)

The Chief Constable of Reading, Mr. T. A. Burrows, also responded, and alluded to the considerable difficulties he and his force encountered when dealing with the foot-and-mouth outbreak.

The rest of the evening was devoted to community singing, led by various members, and solos were rendered by Mr. J. C. Hinton, baritone.

H. Bell, *Hon. Secretary.*

MIDLAND COUNTIES' VETERINARY MEDICAL ASSOCIATION*

ANNUAL MEETING AT BIRMINGHAM

The Annual Meeting of the Midland Counties' Veterinary Medical Association was held at the Grand Hotel, Birmingham, on Friday, March 10th, 1933.

The President, Mr. Frank Chambers, occupied the chair, and there were also present: Messrs. W. H. Brooke, W. F. Aston, McKenzie, Tudor Hughes, J. H. M. Hughes, E. Brayley Reynolds, Colonel Marriott, James Martin, L. C. Tipper, K. A. Miles, O. V. Gunning, H. W. Steele-Bodger, S. Jennings, J. Cormack, J. W. Conchie, A. A. Forsyth, L. W. Heelis, S. M. Woodward, W. E. Ison, R. Over, G. F. Banham, T. R. Yarrow, G. V. Edwards, K. D. Downham, C. Crompton, R. B. Palmer, E. L. Taylor, and H. W. Dawes (Hon. Secretary). Among the visitors were Messrs. G. C. Lancaster and J. Bowen.

Apologies for absence were received from Sir F. T. G. Hobday, Professor Macqueen, Sir Gilbert Barling, Sir John McFadyean, F. L. Gooch, Mark Tailby, W. Dale, T. Chambers, Dr. Graves, Messrs. H. Reynolds, Burchnall, Hobson, Parsons, R. Hughes, M. T. Sadler, C. S. Hunting, Colonel Lowe, Trevor F. Spencer, C. J. Byner, William Trigger, and others.

The circular convening the meeting was read by the Secretary, and the minutes of the last meeting were taken as read and confirmed.

The Secretary reported the death of two members—Mr. Murray (Rugeley), and Mr. Marriott (Northampton), and a silent tribute was paid to their memory.

Sympathy was also expressed with Mr. W. Trigger on the loss he had sustained by the death of his wife.

New Members.—The following were elected as members of the Association: Mr. W. L. Dwerryhouse (Tamworth), on the proposition of Mr. Steele-Bodger, seconded by the Secretary; and Mr. S. Jennings (Knowle), on the motion of Mr. Heelis, seconded by Mr. Cormack.

Mr. G. C. Lancaster (Evesham) was nominated as a new member by Mr. Cormack, and Mr. Thompson (Rugeley), by Mr. Steele-Bodger.

Resignations.—The Secretary reported that Mr. V. Tyerman had tendered his resignation from the Association owing to his removal from Ludlow to Harrogate, and it was accepted with regret.

It was also intimated that Mr. Carless (Shrewsbury) wished to resign, but in view of the long association of Mr. Carless with the Society, it was the earnest wish of the Association that he be asked to reconsider the question.

"Record" Divisional Representative.—The Editorial Committee of the N.V.M.A. having asked for the appointment of a representative from this Association, Mr. Cormack was invited to undertake the duties, and he consented.

"Doyen" of the Profession.—On the suggestion of the Secretary, endorsed by the Treasurer, it was unanimously resolved to send a letter to Mr. Mark Tailby, congratulating him on having reached a ripe age and expressing the hope that he would continue to take an interest in the Division, of which he is an honorary associate.

Royal Sanitary Institute.—The President was selected as a delegate to the Congress of the Royal Sanitary Institute, to be held at Blackpool, in June, with power to nominate a substitute.

Treasurer's Statement.—In presenting the balance sheet for the past year, the Treasurer reminded members that all subscriptions were due on January 1st, and pointed out that only 75 out of a total of 112 paid their subscriptions last year. The statement showed that the credit balance had increased from £67 3s. 2d. to £74 0s. 3d. Subscriptions amounted to £50 15s. 6d. The balance sheet was adopted, and it was agreed that, with a view to securing prompt payment of subscriptions, bankers' orders should be supplied to the members.

N.V.M.A. Council.—Messrs. Tudor Hughes, Over, Steele-Bodger, and Griffiths were appointed as representatives of the Division on the Council of the N.V.M.A.

Election of Officers

Council Report.—The report of the Council, which was adopted, included the following recommendations: That Mr. McKenzie be elected as *President* for the ensuing year, Messrs. Dawes, Banham and Chambers as *Vice-Presidents*, Mr. Dawes as *Hon. Secretary*, Mr. Brooke as *Hon. Treasurer*, Messrs. Aston, Woodward and Cormack as *Auditors*, and Messrs. Griffiths, Conchie and A. A. Forsyth to fill vacancies on the *Council*; that the Veterinary Inspectors' Committee consist of the whole of the members of the Association who are veterinary inspectors to local authorities; and that the next meeting be held at Stafford on May 12th.

Referring to the fact that Mr. Brooke had expressed a wish to retire from the Treasurership owing to the fact that he had now left the district, the Secretary remarked that no one could discharge the duties more efficiently, or was more fitted for the office. He proposed that there be included in the minutes a record of the mem-

* Received for publication April 9th.

bers' appreciation of Mr. Brooke's services, and this was carried with acclamation.

Election of an Honorary Associate.—It was unanimously resolved that the name of Mr. J. J. Burchnall, of Barrow-on-Soar, be added to the list of Honorary Associates. The Secretary referred to the long association of Mr. Burchnall with the "Midland," and, in supporting the motion, Mr. W. H. Brooke spoke with feeling on the friendship which had existed among the older members and Mr. Burchnall.

Paper.—Mr. E. L. Taylor, of the Veterinary Laboratory, Ministry of Agriculture, then read a paper on "The Control of Red Worms in Horses." [Mr. Taylor's paper is reproduced, together with a report of the ensuing discussion, at the commencement of this issue.—Ed., *V.R.*]

A vote of thanks was passed to Mr. Taylor for his valuable paper, on the proposition of the Secretary.

This being the concluding meeting under his presidency, Mr. Chambers thanked the officers and members for their support during the past year.

H. W. Dawes, *Hon. Secretary.*

. . . . .

The Annual Dinner

Departing from custom, it was decided to hold the Annual Dinner of the Association at an earlier date than the Annual Meeting, and that this step met with approval was shown by the large gathering at the Midland Hotel, Birmingham, on February 22nd last. Prior to the dinner the guests were received by the President and his wife, Major and Mrs. Frank Chambers.

Following the Royal Toast, proposed by the President, the toast of the Midland Counties Veterinary Medical Association was proposed by Major Hamilton Kirk, who, in the course of his remarks, said that after considerable difficulty he had ascertained that their Association had been "going strong" since 1860. He deemed this a splendid record—to have survived for so long the well-known apathy which pervaded the veterinary profession.

The Association had nearly 150 members, and must, therefore, be the second largest Division of the "National." It was certainly an extraordinarily virile Division, and he often thought that the agendas of its meetings were worthy of great praise. He liked the varied nature of the clinical discussions which took place at each meeting, for he who had interest only in canine medicine, had an equal chance of hearing that subject discussed as had those who wished only to discuss bovine or equine subjects. It was a method to be emulated by other Divisions, and probably accounted for some of the popularity of that Association. (Hear, hear.)

On behalf of his wife and himself he desired to express their great appreciation of the President's kind invitation to that highly successful function.

The President, in response, said how very pleased he was to respond to the toast from the chair of a very old Association, and he was extremely gratified to find so many old friends gathered around him. The Association was very largely composed of general practitioners; and attendance at the meetings entailed in many cases, sacrifice of time and labour. He regretted very much the absence that evening of the Presidents of the Royal College of Veterinary Surgeons, and of the National Veterinary Medical Association, both of whom had, at the eleventh hour, been prevented from attending. He also wished to refer to a very good friend of the Association, Sir Frederick Hobday, who had done his best to be with them that evening. Sir Frederick was a Midland man, and it was interesting to remember that their Association was the first to elect him to the position of an Honorary Associate, and for this reason in particular, he knew how very highly Sir Frederick Hobday ranked the Midland Association. He knew the guests present wished Sir Frederick every happiness in the future. (Applause.) In conclusion, he would like to express his thanks to Major Kirk for his kind remarks, and to say to his guests how very much he had enjoyed his year of office. (Applause.)

Mr. H. W. Steele Bodger, in proposing the toast of the "Visitors," referred to the interest taken by Professor Emanuel and Dr. Thomson in the newly-formed Comparative Section of the Birmingham Medical Institute.

Professor Emanuel, in response, referred in a humorous vein to the success of the veterinary profession in spite of the non-existence of a Panel. If the profession was careful in limiting its numbers, and prolific in the discovery of new diseases, he thought that its prosperity was assured. (Laughter.) He could not help contrasting the happiness and geniality of that gathering with what sometimes arose at medical dinners. "Had this been a medical dinner" he said, "by now, the telephone would have been ringing incessantly, messages would have interrupted the speakers, and the guests would have been called away. But, as a contrast, look at this gathering of Veterinary Surgeons—mares foal, cows calve, I don't know exactly what pigs do, but everyone goes on with the dinner in perfect calm and equanimity. It only goes to show you how well the Veterinary Profession manages its affairs." (Laughter.) In conclusion, he desired to express the pleasure it gave him and the other guests to be the visitors of the Midland Counties Veterinary Association. (Applause.)

Following upon the conclusion of the toast list, the guests were entertained by the Lehmiski Cabaret, and dancing continued until the early hours, music being provided by Mr. Horace Janes and his Lyricals Band.

Notes and News

The Editor will be glad to receive items of professional interest for inclusion in these columns.

* * * * *

DIARY OF EVENTS

May 10th.—Last day for nominations for election to Council, R.C.V.S.

May 12th.—Meeting of the Midland Counties Division, N.V.M.A., at Stafford.

May 15th.—Meeting of the Editorial Committee, N.V.M.A., at 2, Verulam Buildings, Gray's Inn, W.C.1, at 4.30 p.m.

May 24th.—R.C.V.S. Voting Papers and Annual Reports issued.

May 26th.—Meeting of the Southern Counties Division, N.V.M.A., at Winchester.

May 31st.—R.C.V.S. Council Election: last date for receipt of Voting Papers.

June 7th.—R.C.V.S. Annual General Meeting, 12 noon.

June 7th.—Annual General Meeting of Victoria Veterinary Benevolent Fund.

June 8th.—D.V.S.M. Examination begins.

June 9th.—R.A.V.C. Annual Dinner, Hotel Victoria.

June 12th.—D.V.S.M. Oral Examination.

June 30th.—Final date for payment of Annual Fees to R.C.V.S.

July 5th.—R.C.V.S. Committee Meetings begin.

July 6th.—Meeting of Council R.C.V.S. for election of President and other Officers.

July 7th.—R.C.V.S. Quarterly Meeting of Council.

July 10th.—R.C.V.S. Membership Examination begins.

Sept. 18th-23rd.—N.V.M.A. Congress, Llandudno.

Sept. 25th-26th.—R.C.V.S. Jubilee Memorial and Bursary Prize Examination.

* * * * *

STATE VETERINARY SERVICE QUESTION

At a recent meeting of the Herefordshire Agricultural Committee it was reported that, at a special meeting, the Diseases of Animals Sub-committee had considered a question forwarded by the County Councils' Association, on behalf of the Economic Advisory Council, as to whether or not there should be a State Veterinary Service. This, the sub-committee had ascertained, would leave only with the local authority any veterinary work that might be necessary in the inspection of meat and the care of animals owned by the authority itself, and they recommended that a negative answer should be given to the following question: "Whether it would be beneficial for the duties of the Veterinary Staff of the Ministry of Agriculture and Fisheries to be extended so as to include, in addition to their present veterinary work, veterinary work connected with the Tuberculosis Order; veterinary work at present carried out by local authorities for the purposes of the Milk and Dairies Acts and Orders; the regular clinical inspection of cattle in every part of the country; and the tuberculin testing of cattle for the purposes of the Milk (Special Designations) Order?"

The sub-committee also recommended that a negative answer should be given to the question whether it was desirable that the functions now appertaining to sanitary authorities in relation to cow-sheds, and normally exercised through their sanitary inspectors, should be transferred to county councils and exercised through their veterinary inspectors. They were also of opinion that the results obtained under the Tuberculosis Order of 1925 as at present administered were satisfactory.

* * * * *

PERSONAL

Marriage.—Jarvie—Salkeld.—On April 25th, at St. Margaret's Church, Durham, Thomas Russell Jarvie, M.R.C.V.S., of Wishaw House, Gateshead, to May Salkeld, daughter of the late Mr. and Mrs. Salkeld, of Bishop Auckland. The Rector of St. Margaret's (the Rev. C. J. Thurlow) officiated and Mr. C. B. Maude, of Durham Cathedral, presided at the organ.

The bride was given away by Councillor H. Murdoch, of Neville Court, Durham. Miss Edith Rogers, of Sunderland, was the bridesmaid and Mr. Thomas R. Hall, of Gateshead, was best man.

The reception was afterwards held at Neville Court, following which Mr. and Mrs. Jarvie left for their honeymoon in Scotland.

* * * * *

Sir Frederick Hobday Honoured.—Zürich University celebrated on Saturday last the hundredth anniversary of its foundation. Sir Frederick Hobday, Principal of the Royal Veterinary College, was elected doctor *honoris causa.*

* * * * *

R.C.V.S. OBITUARY

Jackson, John Charles. Clevedon Mansions, Parliament Hill Fields, N.W.5. Graduated London, July 10th, 1925. Died April 28th, 1933, aged 46 years.

McVean, Hugh Fraser, Glengower, Craigellachie, Banffshire. Graduated Glasgow, December 23rd, 1896; died April 26th, 1933, aged 59 years.

Melck, Gilbert Henry, Sub-Director of Veterinary Services, Union Buildings, Pretoria, Transvaal, South Africa. Graduated London, July 9th, 1914; died March 30th, 1933.

* * * * *

The Late Major Hugh McVean

The *Aberdeen Evening Express* speaks of Major Hugh McVean as being well known and respected over the whole of Speyside, particularly by the agricultural community, with whom he came more closely in contact. The deceased gentleman died in a nursing home in Elgin after a short illness.

A native of Dumbartonshire, Major McVean took over his present practice, which extended from Aviemore right down the whole valley of the Spey, some 30 years ago, having been previously, for a short time, in practice in Perth.

"Everything pertaining to the welfare of Craigellachie had the Major's generous and wholehearted support," says the *Express.* "Not only was he the village's unofficial 'Provost' as Chairman of the General Amenities Committee, in which connection he did valuable work, but he was also a trustee of the recently-erected hall, vice-president of the Curling Club, and a manager of the Craigellachie Mission Church.

"Major McVean served throughout the whole of the South African War and also the Great War.

"Major McVean is survived by his wife and family of two sons and two daughters. One of the sons, Mr. Hugh McVean, has been associated with him in the practice."

* * * * *

HEAVY HORSES WANTED

Horses are one of the few classes of farm stock which have maintained and increased in sale value during the past few years. Following the decline in the breeding of horses after the War, the supply of colts and fillies coming on for work on the land and for town haulage is now inadequate for requirements, and consequently prices have risen considerably. The prospects are good for those farmers who breed a few foals each year. Though mechanisation has made advances and tractors are now indispensable on some farms, horses are likely to be wanted for many years to come on the great majority of farms, and they hold their own with the motor-lorry for short haulage work in the towns. Horse transport may be slow-moving, but it is economical, and this is the main consideration with the railway companies and others who keep to horses for short-distance work.—*The Times.*

* * * * *

HACKNEY HORSE SOCIETY

At a recent meeting of the Council of the Hackney Horse Society, Mr. Nigel C. Coleman, M.P., in presenting the report of the Show Committee, mentioned that the entries for the coming show were satisfactory, and there was every indication of an entry being received of about the same number as last year. The appointment of assistant veterinary surgeons had been made, and other show matters were dealt with. Mr. Edgar H. Q. Henriques, J.P., was unanimously nominated as president-elect. The general meeting of members was fixed to be held at the Society's offices on Wednesday, June 14th.

* * * * *

WORLD POULTRY CONGRESS

The fifth World Poultry Congress arranged by the World's Poultry Science Association and which, as announced in our issue of February 4th, takes place in Rome this year from September 6th to 15th, is held every three years. The first was in Holland in 1921, the second in Spain in 1924, the third in Canada in 1927, and the fourth in England in 1930. Among the aims of the Congress are the pooling of the most recent knowledge relating to the rearing of domestic poultry; the development of scientific research work and instruction in connection with poultry raising; and the "diffusion of the raising of the best poultry breeds by means of international shows," besides making known the best equipment and devices used in poultry rearing, and encouraging trade in poultry products. This year's Congress will be held under the patronage of H.M. the King of Italy, and the committee in charge of the arrangements has extended an invitation to all countries to take part. There are to be six sections, arranged according to the nature of the topics to be discussed. These are as follows: (1) general and genetic questions; (2) physiology, nutrition and breeding; (3) hygiene and diseases; (4) instruction and organisation; (5) economic problems and trade in poultry products; (6) rabbit raising; rabbits apparently being regarded as poultry for the purposes of the Congress. The subscription to the Congress has been fixed at 75 liras or its equivalent in foreign money (16s. 3d. sterling at present), the payment of which sum entitles the subscriber to receive all the documents connected with the Congress; while the subscription fee for ladies accompanying Congress members has been fixed at 25 liras. Members of the Congress who wish to visit historic centres in Italy will have the advantage of railway tours at half price.

* * * * *

H.M. STATIONERY OFFICE PUBLICATIONS

The undermentioned have been published recently. Copies can be purchased through any bookseller, or directly from H.M. Stationery Office, at the following addresses:—London: Adastral House, Kingsway, W.C.2, and 28, Abingdon Street, S.W.1; Cardiff: 1, St. Andrew's Crescent; Manchester: York Street; Edinburgh: 120, George Street.

	Price Net. s.	d.	*Post Free.* s.	d.
Statutory Rules and Orders, 1933:—				
323. Animal. Diseases of Animals. The Sheep (Movement in Scotland and Northumberland) Order, dated April 10th, 1933	0	2	0	2½
347. Public Health, England. The Public Health (Imported Food) Amendment Regulations, dated April 25th, 1933	0	1	0	1½
Agriculture and Fisheries, Ministry of.				
161. Rabbits for Fur and Flesh. (Formerly Leaflet No. 265)	0	1	0	1½
166. Selection of Dairy Cattle and Milk Recording. (Formerly included in Leaflet No. 187)	0	1	0	1½

* * * * *

"BOSH" IN THE PHARMACOPŒIA

The recent publication of a new edition of the British Pharmacopœia is a monument to the skill and hard work of its editors, and this edition cannot but be of the greatest service to dispensing chemists. But its existence is but a poor compliment to the intelligence of the medical profession, for of necessity it contains a lot of bosh, says the *Medical Press* of April 12th. Admittedly it is hard for the less intelligent members of the public to rid themselves of the notion that some sort of a bottle may, perhaps, be found suitable for any and each complaint. Yet, thank goodness, this is not the basis of modern teaching of therapeutics in our medical schools. The basis of drug treatment is, of course, the knowledge of the action of the particular drug, the factors which influence dosage, the margins of efficacy and safety in dosage, and the routes of absorption. The number of physiologically active drugs is comparatively small, the number of their "B.P. Preparations" is very large. They form a list so formidable that oftentimes a student of the subject cannot but imagine that there is virtue (if not knowledge) to be acquired by learning them, and a heedless examiner may be induced to accept a knowledge of the names and "official dosage" of these preparations in place of a knowledge of the method of action and limits of dosage of the pure drug itself. In conclusion, the *Medical Press* asks whether it would not be well in some future edition of a Pharmacopœia to issue a small volume dealing only with action, composition, absorption, dosage, and such points, leaving the traditional tinctures, infusions, extracts, and so forth to occupy space in a massive supplement for the convenience of pharmacists.

QUARANTINE STATION'S FUTURE

"An announcement in the daily Press of the probable early closing down of the Empire Marketing Board does not imply that any fresh developments have occurred with regard to the future of the Board," says the *Farmer and Stock-Breeder*. "The position at the moment is as it was after the Ottawa Conference, when it was agreed that fresh arrangements should be made for economic investigation and co-operation between the Empire countries after September, 1933. How the Empire Marketing Board is to be replaced is one of the problems now being tackled in London by the members of the Imperial Economic Committee.

"The research work for which the E.M.B. has been responsible is likely to be continued on a modified basis under new auspices; there is talk that the Quarantine Station will also be continued under the supervision of the Ministry of Agriculture in conjunction with the R.A.S.E. Exporter-breeders are hoping that it will not involve any serious increase in the modest rates now prevailing."

* * * * *

NEW MILK RECORD

By her yield of 113½ lb. of milk in 24 hours, the Shorthorn cow, Doris, owned by Mr. A. O. Hughes, of Lindow, Rhosneigr, Anglesey, has beaten by a very small margin the record of Mr. John Day's Dumpling, which gave 113¼ lb. in 24 hours on three occasions during her 1930 lactation.

Producing her third calf on May 24th, 1932, Doris gave her highest daily yield of 113½ lb. on June 20th, and in that week gave 746¾ lb. In the first month after calving her yield was 2,680 lb. Three times milking was discontinued at the end of September, and the lactation was completed in 301 days with a total yield of 14,000½ lb. The cow is due to calve again in June.

This yield of 113½ lb. is the highest reported for a Shorthorn cow in any part of the world. The highest lactation record is that of a cow in Australia, Melba 15th of Darbarlara, her yield being 32,522 lb. of milk and 1,614 lb. of butter-fat in the year; but her highest recorded yield in 24 hours is 3 lb. short of that of Mr. Hughes' cow.

* * * * *

FROM COW TO CAR

A new outlet for dairy farm produce was described by Mr. Foster Sproxton, B.Sc., speaking at the Plastics Industry Exhibition in the Science Museum, South Kensington, on April 26th, on "Celluloid and Casein Plastics and their Uses." He said: "The manufacture of casein plastic begins with the cow, and fresh milk is brought in by dairy farmers to the casein factory each morning. The milk is warmed, the cream taken off, and the skim milk conveyed to large vats where concentrated essence of rennet is added. Then the whey is drained off and the curd washed. The resultant cake is ground to a moulding powder, is mixed with water and colour, and is now ready to be plasticised. The brilliance of colour possible with casein plastic is one of its chief assets and it is used chiefly for the button, umbrella, pen and pencil, motor car, cutlery, wireless and optical trades. The supply of casein is bound up with dairy farming and there is no reason to anticipate a shortage of casein as long as the cow is sufficiently old-fashioned to accept parental responsibilities."

Correspondence

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

* * * * *

VETERINARY INSPECTION OF DAIRY COWS

[A Reply to the Editorial of the *Veterinary Journal* (April, 1933.)]

To the Editor of the Veterinary Record

Sir,—We all agree that the regular veterinary examination of all dairy cows producing milk for sale should be carried out without delay and, so far, the advocacy of this procedure *has* vindicated our policy—and an alteration of *shall* for *may* in the Milk and Dairies Order would make this examination an accepted fact. No actual words have been used to compel local authorities to make these examinations compulsory, but it has been left to them to inspect or not.

As most members of the Diseases of Animals Committees and Public Health Committees of county councils (these are a joint committee for the above) are farmers and land owners, they have varied ideas as to what is necessary and what constitutes an inspection, nor is it to be wondered at that these permissive clauses have been carried out with such variability—or, mostly, not at all.

Mr. Thomas Baxter, in his paper on "Veterinary Inspection of Dairy Cows," only quotes from the report of a Chief Veterinary Officer. Probably that is only so because the inspections by part-time officers are not given the publicity of a report.

Major D. S. Rabagliati, in the same issue of the *Journal*, observes that at a recent meeting of the Farmers' Club, in London, a leading agriculturist stated that the National Farmers' Union had circularised its branches, and they found in districts where veterinary inspection is now carried out *that the farmers would not like to go back to the days without it*. With that I wholeheartedly agree.

Some two or three years ago our inspections, for some reason, were held up by the county council for three months, and one local branch of the N.F.U. in my district were seriously contemplating a petition to the county council to continue the inspections, as they were doing a great service to the milk producers generally.

Let me follow this up by quoting from the *Veterinary Record*, April 8th, 1933.

"In presenting the report of the Diseases of Animals Committee to the Gloucestershire Agricultural Committee at a recent meeting, the Chairman, Mr. G. McIlquham, said he felt that his Committee would never cease to be thankful for the *extremely able way in which the veterinary inspectors in Gloucestershire had helped in improving the health of many herds*."

Both the above paragraphs were in respect to a *part-time* Veterinary Health Service, and they agree with the paragraph immediately preceding them, quoted by Major Rabagliati, which I presume related to whole-time inspections.

Is there anything, so far as *efficiency* goes, between the two methods?

Routine veterinary inspection *does* improve the health of herds, whether carried out by whole- or part-time officers, even though the latter are not considered to be efficient or their employment economical—*vide* Milk Reorganisation Commission's Report.

These inspections do react on our ledgers,

because we are removing animals suffering from tuberculosis and udder disease which were formerly a big source of income—and are now removed (in our case) at a cost of a capitation fee of 6d., *plus* 10s. 6d. for a *post-mortem* on a tuberculous animal. This is practically all the cost involved—we get no mileage expenses. Is that economy or is it prodigal expenditure?

Conversely, if these animals are removed as a result of *whole-time* inspection the *general practitioner* is not called in, and so loses the fee these cases would bring in. The part-time officer also loses these fees, but he is compensated by the salary of his appointment. Therefore the general practitioner is the hardest hit, and in many small practices, and these are in a large majority, it makes it impossible for him to earn a living and he falls out. *"The whole-time service will oust the general practitioner from his livelihood."*

Personally, I do not see that the status of the profession can be lowered by the appointment of part-time men. If the appointment of 300 whole-time officers is going to raise the status to that approaching medical service, will not the appointment of 1,000 men raise that status three-fold—for "the whole- and part-time veterinarians do belong to one and the same profession."

Is *is* bringing us into line with the medical services of the country, as it will, if *all* country practitioners are employed as part-time officers, be analogous to the panel and parish work of the general medical practitioner. The panel practice of our medical confrères has been the salvation of tens of thousands of them.

Are we compelled to take orders from chief constables and police superintendents, and have we been entirely subservient to them? I have been an inspector for many years now, but I have never felt "subservient," nor have I "taken orders" from the police; the police are our very good friends, and I hope the Diseases of Animals Act will not be amended so far as their help to us is concerned.

If a suspicious case arises which comes under the Diseases of Animals Act the case is *reported* to me by the Superintendent of Police, and, acting on *my* authority as an inspector under the Act, I investigate the case—but I do not consider that to be "taking orders from the police"; on the contrary, the police report to me. True, I report back to them, but that saves me a lot of work filling up forms (which is done by the police) and form serving—and for that I am grateful—but under the Milk and Dairies Order I take my orders from the County Council, just as a whole-time officer does—my reports are sent to the County Council, and the County Council staff deals with all forms, etc., and I am grateful for that, too.

It must also be remembered that the Diseases of Animals Act and the Milk and Dairies Act and Order have to be administered, so far as we are concerned, as if they were *one*. If the part-time officer is not appointed in the future he will lose not one, but *two* appointments.

The Diseases of Animals Act inspections are a very useful addition to one's income.

Yours faithfully,

J. W. Hall Masheter.

Newnham-on-Severn.

* * * * *

"WHAT IS THIS SO-CALLED SEWAGE POISONING IN CATTLE?"

To the Editor of the Veterinary Record

Sir,—I do not think Mr. T. Lishman's negative conclusions drawn from a reading of Sir Frederick Smith's "Veterinary Hygiene" on the impregnation of water by sewage are exact, *e.g.*, Sir Frederick writes: "The impregnation of water by sewage has undoubtedly some effect upon animals," and again "As our knowledge progresses we shall have outbreaks of disease clearly attributable to this cause." He also instances cases of relapsing fever in horses observed by J. H. Steel, v.s., and due to impure water, and illness in animals due to a green scum formed by a protococcus on a drinking pond. The water had a stench of urine and butyric acid.

Personally, I should not like to declare that some forms of *gastro-enteritis* in cattle are not due to water contaminated by sewage, nor yet that *paratyphus-Gärtner-enteritis* (Dr. E. Weber: "Die Krankheiten des Rindes") of adult cattle is not sometimes due to sewage. On *post-mortem* there may be swelling of the spleen and lymph glands, gastro-enteritis and small necrotic spots in the liver. An absolute diagnosis can only be established by material at a bacteriological laboratory.

Yours faithfully,

G. Mayall.

Bolton.

* * * * *

DEAFNESS INVESTIGATION: A REQUEST

To the Editor of the Veterinary Record

Sir,—Investigations have been in progress at this institution for some time in connection with the physiology and pathology of the ear. The work has as its direct objective the elucidation of some of the more practical aspects of the problem of deafness, and the main questions involved lend themselves strongly to the method of animal experiment. My information is that there exists a certain type of white Persian cat, often with blue eyes, which is subject to a form of congenital deafness. Such evidence as we have would indicate that the pathology of this condition is closely allied to that of a type of disease commonly occurring in human beings. If it were possible to obtain some of these animals for experimental purposes, there is good reason to suppose that the purposes of the investigations outlined would be materially advanced.

The reasons which demand that a cat should be used for this purpose are that, while the ear of the cat in structure (and therefore by inference in function) very closely resembles the human ear, there exist possibilities of examining a cat's ear during life (under anæsthesia) and after death, which will never be open to us in the case of the human being. The actual procedures involved are:—

(1) The examination (under full anæsthesia) of certain electrical reactions of the ear.

(2) The microscopical examination of the ear after death.

I should be grateful, Sir, if you would allow me, through the medium of your columns, to make an appeal to your readers for assistance in obtaining some animals of the type desired, which, I am told, are quite rare.

Yours faithfully,

C. S. Hallpike, M.B., M.R.C.P., F.R.C.S.

Ferens Institute of Otology,
Middlesex Hospital Annexe,
Cleveland Street, W.1.

April 26th, 1933.

The Editor acknowledges, with thanks, the receipt of the following:—

Communications from Captain J. Howard Jones (Glamorgan), and Mr. Arnold Spicer (Oxted).